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THE RELATIONSHIP OF VOCATIONAL OUTLOOK AND SPECIAL EDUCATIONAL PROGRAMS FOR ADOLESCENT EDUCABLE MENTALLY HANDICAPPED.

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DESCRIPTORS- *EXCEPTIONAL CHILD RESEARCH, *MENTALLY HANDICAPPED, *VOCATIONAL ADJUSTMENT, *PROGRAM PLANNING, *VOCATIONAL EDUCATION, EDUCABLE MENTALLY HANDICAPPED, PREVOCATIONAL EDUCATION, WORK ATTITUDES, ATTITUDES, ATTITUDE TESTS, PROGRAM EVALUATION, TEACHERS, STATE PROGRAMS, WORK EXPERIENCE, FATHERS, EDUCATIONAL BACKGROUND, EMPLOYMENT LEVEL, SEX DIFFERENCES, RACIAL DIFFERENCES, AGE DIFFERENCES, INTELLIGENCE DIFFERENCES, WORK STUDY PROGRAMS, FAMILY LIFE, ASPIRATION, ATTITUDES, SOCIOECONOMIC INFLUENCES, ADOLESCENTS,

THE PURPOSE OF THE STUDY WAS TO INVESTIGATE THE RELATIONSHIP BETWEEN THE VOCATIONAL OUTLOOK OF HIGH SCHOOL EDUCABLE MENTALLY HANDICAPPED (EMH) STUDENTS AND THE TYPE OF HIGH SCHOOL PROGRAM IN WHICH THEY WERE ENROLLED. POSSIBLE RELATIONSHIPS BETWEEN EMH STUDENTS' VOCATIONAL OUTLOOK AND AGE, SEX, RACE, INTELLECTUAL LEVEL, READING ACHIEVEMENT LEVEL, WORK EXPERIENCE HISTORY, AND HOME BACKGROUND WERE ALSO CONSIDERED. DATA WERE COLLECTED FROM 13 HIGH SCHOOLS IN ILLINOIS WHICH OPERATED TWO OR MORE SPECIAL CLASSES DURING THE 1965-66 SCHOOL YEAR. THE SAMPLE INCLUDED 202 MALES AND 171 FEMALES WHO RANGED IN AGE FROM 13 TO 21 YEARS. VOCATIONAL OUTLOOK OF EMH STUDENTS WAS MEASURED BY A COULD YOU EVER SCALE, A GROUP TEST CONSTRUCTED FOR THE STUDY. EACH PROGRAM WAS RATED ON A PROGRAM CRITERIA INDEX, ALSO CONSTRUCTED BY THE INVESTIGATOR. THE STUDY FOUND (1) A SIGNIFICANT DIFFERENCE IN IQ GROUPINGS BETWEEN MALES AND FEMALES WITH MORE MALES IN THE HIGHER IQ GROUPINGS, (2) NO SIGNIFICANT RELATIONSHIP BETWEEN STUDENTS' VOCATIONAL OUTLOOK AND THE NATURE OF THE PROGRAM IN WHICH THEY WERE ENROLLED, (3) FEMALES LESS APPROPRIATE IN THEIR VOCATIONAL OUTLOOK THAN MALES, (4) A DECREASE WITH AGE IN INAPPROPRIATE RESPONSES ON VOCATIONAL OUTLOOK, (5) AS A GROUP NON-WHITE SUBJECTS WERE MORE INAPPROPRIATE IN VOCATIONAL OUTLOOK THAN WHITE, (6) A LESS APPROPRIATE OUTLOOK IN THE LOWER IQ GROUP OF SUBJECTS, (7) MORE APPROPRIATE ATTITUDES IN VOCATIONAL OUTLOOK OF MALES FOLLOWING COMMUNITY WORK PLACEMENT, AND (8) MORE APPROPRIATE VOCATIONAL ATTITUDES IN STUDENTS FROM THE FATHERS' HIGHER LEVEL OF OCCUPATIONAL AND EDUCATIONAL GROUPS THAN IN THOSE FROM THE FATHERS' LOWER LEVEL GROUPS. IMPLICATIONS FOR PROGRAM PLANNING ARE MADE, AND FURTHER STUDIES ARE SUGGESTED. A BIBLIOGRAPHY CONTAINS 32 REFERENCES, AND APPENDIXES PRESENT THE PROGRAM CRITERIA INDEX AND THE COULD YOU EVER SCALE. (DF)

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The Relationship of Vocational Outlook And Special Educational Programs For Adolescent Educable Mentally Handicapped

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By

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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CHAPTER I

PURPOSE OF THE STUDY

The purpose of this study is to investigate the appropriateness of vocational outlook of high school educable mentally handicapped (EMH) adolescents enrolled in special classes in the public high schools of Illinois. Examination will be made of the various high school programs to determine if any relationship exists between vocational outlook and the program in which the EMH student is enrolled. Possible relationships between the EMH students' vocational outlook and his age, sex, race, intellectual level, reading achievement level, work experience history and home background will also be considered.

The lack of previous research dealing specifically with this topic dictates the need of an exploratory study of existing programs.

Review of the Literature

Historical Development of the Education of the Mentally Retarded

Reports of education of the mentally retarded date from about 1800 with the attempts of Itard to educate a single mentally defective boy. Prior to that time undifferentiated institutions for the care of the retarded and mentally ill had been in existence but attempts at education are not reported in the literature.

In the United States, the first day school class for the retarded was established in Providence, Rhode Island in 1896 although residential institutions for the retarded date from about the mid 1800's. The period from 1915 to 1930 saw a fairly rapid development of special classes for the retarded in the public schools. This trend slowed and

even tended to decline during the economic depression of the 1930's and early 1940's. Following World War II a growth was again noted in public school classes for the retarded. The majority of classes developing have been for elementary age children (Dunn, 1956; Robinson and Robinson, 1965, pp. 455-478).

In 1943 the Illinois General Assembly enacted permissive legislation to provide public school programs for the EMH and other exceptional children. This law also provided for special reimbursements to school districts establishing such classes meeting certain state requirements. Appropriations to provide these reimbursements to school districts were not authorized by the General Assembly until 1945 however.

By 1947, the number of children enrolled in State approved special classes for the EMH numbered 4,453. This figure had grown to 10,617 by 1963 (Illinois Administrators of Special Education, 1965, p. 5). In 1963 approximately 50 of the special classes for EMH were found in public high schools and were serving approximately 750 students. This fact indicates the relatively rapid development of elementary classes and the slowness of development of high school classes.

The Present Status of Special Classes for the EMH in Illinois

After hearing testimony primarily from parents' groups in 1961 and 1963 which indicated school districts were not accepting the responsibility of providing for exceptional children (specifically the EMH and trainable mentally handicapped), the 1965 Illinois General Assembly passed a bill requiring every school district in the State to provide for the education of all resident handicapped children by the 1969-70 school year (School Code of Illinois, 1965, Article 14). The

law and subsequent publications outline transitional steps to be taken to implement the law by July 1, 1969. From this mandatory law may be inferred the reluctance of high schools to accept responsibility for the handicapped as indicated by inclusion of the following section:

> "Sec. 14-6.01 . . .
> Effective July 1, 1966, high school districts are financially responsible for the education of handicapped pupils resident in their districts when such pupils have reached age 15 but may admit handicapped children into special educational facilities without regard to graduation from the eighth grade after such pupils have reached the age of 14-1/2 years.
> Any district maintaining a recognized high school is authorized to issue certificates of graduation to handicapped pupils completing special educational programs approved by the Superintendent of Public Instruction." (School Code of Illinois, 1965)

Further evidence of reluctance of high schools to establish programs for EMH students is noted in Table 1.

TABLE 1. Approved EMH Classes in Illinois Public Schools (February 1966).

	City of Chicago	Downstate
Elementary Classes	543	644
High School Classes	38	60
Per cent of Classes in High Schools	6.5%	8.5%

(Source--Dept. of Special Education, Office of Supt. of Public Instruction)

If one assumes the public schools generally are composed of grades one through twelve, the high school years of grades nine through twelve would account for one-third of the pupil population. Assuming some students drop out of school at age 16 or after, it is more reasonable to assume one-fourth of the student population will be found in

the high school. Thus where one-fourth of the total student population would be expected to be enrolled in high school, only 6.5 to 8.5 per cent of the existing EMH classes in Illinois are found in high schools. Using one-fourth as the criterion for the present number of classes, the City of Chicago should have 145 high school classes and Downstate Illinois 176. The Department of Special Education, Office of Superintendent of Public Instruction (OSPI) estimates the present EMH classes are serving only one-fourth of the total number of children in need of this service. It seems logical to assume many of the EMH children not served in high school EMH classes are included in high school dropout statistics since the traditional curriculum is academically oriented. Others being served remain in elementary special classes until reaching age 16, the upper age for mandatory school attendance.

In the 1965-66 school year only thirteen high schools in Illinois operated two or more special classes for the EMH (See Appendix A). Major population centers of the State (population 35,000 and over) not included in these thirteen schools are Alton, Bloomington, East St. Louis, Joliet, Kankakee, Moline, Peoria, Rock Island and Springfield.

The mandatory special education law will require many high schools to initiate special classes for the EMH. Existing classes have been subjected to little study.

High School Programs for the EMH

Many authors have discussed what constitutes a program for the EMH at the high school level. Kirk and Johnson (1951), Ingram (1953), Goldstein and Seigle (1958), Sniff (1962), Kirk (1962), and Robinson and Robinson (1965) all advocate continued instruction in tool subjects

with application to everyday practical problems and instruction in the following areas as being essentials in high school EMH programs: (1) home building and home maintenance skills; (2) occupational education with work-study provisions; (3) citizenship; and (4) physical and mental health.

Kirk, in a 1957 presentation, listed the following points for future planning considerations as they relate to increasing automation in business and industry:

> "First, we must begin to anticipate the abolition of certain jobs now held by the mentally retarded and search for possible new openings in harmony with their abilities.
> Secondly, we must become sensitive to the changes occurring in our social structure and particularly changes in commerce and industry.
> Thirdly, we must look into the future in our plans for training and placement since present training means placement in the future." (Kirk, 1957)

"Briding the gap" between the school and employment has become a major concern of high school EMH classes. The titles of work-study coordinator, teacher-counselor and prevocational counselor have evolved in many high schools operating EMH classes to designate the person who devotes full or part-time to vocational counseling and placement of students in work-study programs. An extensive program utilizing a team approach of public school personnel and Vocational Rehabilitation personnel to jointly offer prevocational services has developed in the Champaign (Illinois) Community Schools (Champaign Public Schools, 1961 and Burchill, 1962). The State of Texas offers a similar program on a statewide basis (Eskridge and Partridge, 1963). Other communities in Illinois and elsewhere have organized similar programs. (Burchill, 1962). These programs do not attempt to offer specific job or trade training but through classroom instruction, counseling, in-school and community

work experiences and sheltered workshop evaluation periods and experiences, they attempt to instill habits, attitudes and skills necessary to obtain and hold a job. The general procedure involves assignment of the EMH student to a work situation for a portion of the school day during his high school years. Some programs offer structured, sequential work experiences while others place the student in any available job and still others have no work-study program available. In some cases the special class teacher coordinates the program during after-school hours, in others he has released time during the school day, and in others special personnel devote full time to this phase of the program.

Research Studies

Erdman (1957) reviews the literature which pertains to the present study for the period prior to 1957. In summarizing follow-up studies on employment of the retarded, Erdman (1957, p. 8) found general agreement that most retardates found employment at the unskilled and semi-skilled level. Very few, if any, found jobs at the semi-professional and professional level. McFall's (1966) findings confirm these findings. She also found only 22 per cent of the 50 subjects studied had some type of vocational training after leaving school.

Warren (1965) reports on the 42 graduates of the Kent Occupational Education and Training Center in Michigan. He found the majority of graduates in service and non-service (unskilled and semi-skilled) jobs. Peterson and Smith (1960) in comparing former EMH students with former students of normal intelligence from families of low socio-economic status found a difference in the type of work performed. The retarded

females were employed primarily in service occupations while their counterparts in the comparison group found employment chiefly in the clerical field. The retarded males were found primarily in service and unskilled jobs while the males in the comparison group were employed in clerical, semi-skilled and skilled occupations. Dinger's (1961) study of graduates of the Altoona, Pa., program also found the majority of the subjects in the unskilled and semi-skilled fields. The study also reported occupational success is not highly related to differences in intelligence but is a reflection of the desirable personal characteristics possessed by the retarded worker.

Erdman (1957) investigated the vocational choices of adolescent mentally retarded boys and found that only one-third of the boys made "unrealistic" choices in that they chose occupations not generally considered as appropriate for the EMH. He also found the home and community exerted a greater influence on vocational choice than did the school. Erdman's study was limited to 106 sixteen, seventeen and eighteen year old white mentally retarded boys enrolled in special classes in major labor market areas of Wisconsin. Erdman offers the following major findings of his study:

"1. The majority (52 per cent) of adolescent mentally retarded boys chose jobs at the unskilled and semiskilled level. Of the others, 34 per cent chose skilled jobs, 14 per cent could not make a choice, and only one per cent chose a job at the semiprofessional level.

2. There is evidence to indicate that many of the mentally retarded boys have achieved the objective of self-realization. An analysis of other choices, such as prior choices or most liked choices indicated that the mentally retarded were relatively realistic. Although some would have preferred higher level jobs, they recognized their lack of academic ability for such jobs.

3. The retarded boys making first vocational choices at the unskilled and semiskilled levels tended to be realistic. Most of the 36 retarded boys making first vocational choices at the skilled level tended to be unrealistic. A significant difference was observed between the number of subjects expecting to work at these levels and the estimated number of retarded employed there.

4. The vocational experiences associated with the home and community appear to exert stronger influences on the formulation and crystallization of the vocational choice of the retarded boys than the experiences in school.

   a. Eighty per cent of the boys reported that they had discussed their vocational choice with someone at home as compared to only 33 per cent who reported they had discussed their choice with someone at school.

   b. In most cases the subjects reported no marked conflict between the expectation of their parents for them and their own first vocational choice.

   c. The first vocational choices of the mentally retarded boys tended to be at the same level as the occupations of the fathers as reported by the boys.

   d. An interest in jobs for the boys occurred most often as a result of actual experience on a job and secondly by having someone tell them about a job. These experiences were more frequently associated with the community and home than with the school.

5. The levels of vocational choices of the boys appear to be influenced to a relatively small degree by certain factors in the school program. An analysis of the percentage of time spent teaching vocational information, the number of vocational services, or the existence of an organized course of study appears to have a minimum of influence on the levels of choice.

6. The evidence gathered suggests that there are at least three major areas to be considered in the development of vocational curricula for the adolescent mentally retarded. These are the creating of opportunities for the development of vocational concepts of self, the identification and analysis of the forces influencing the vocational attitudes of the boys, and the planning of a program whereby the retarded become aware of the structure and characteristics of the labor force in their community as it applies to them." (Erdman, 1957, pp. 130-131)

Allen's study (1941) dealt with 1,000 junior high school students. Of this group, 144 subjects with IQ's below 80 evidenced no choices at the unskilled level, 47 subjects had choices at the semi-skilled levels and 24 subjects chose at the professional level. A course on semi-skilled and unskilled occupations completed by the group resulted in 48 of the 144 subjects restating their choices more in accordance with their ability.

McCoy (1960, pp. 70-71) found academically successful EMH students were significantly more realistic in their self-confidence and level of aspiration than academically unsuccessful EMH students.

Studies reported by Erdman (1957, p. 11) suggest a definite positive relationship existing between the level of job and the degree of intelligence which is required to perform the job. This seems to be in some conflict with Dinger's findings that personal characteristics contributed more to occupational success.

In 1957, Kirk made the following generalizations in summarizing vocational studies of the retarded:

> "1. Under ordinary circumstances, the large majority of boys and girls graduating from special classes will obtain and hold jobs, although they tend to change jobs frequently, like other youngsters just out of school. Their record of unemployment, however, is slightly higher than average.
> 2. The jobs on which they succeed most frequently tend to cluster in the semi-skilled and unskilled categories of employment.
> 3. The mentally retarded succeed more frequently when they have been specifically assisted through training, placement, and guidance." (Kirk, 1957)

These generalizations seem to hold true today in light of the newer studies reported.

Studies of vocational choices of normal children as reported by Erdman (1957, p. 14) showed no consistent finding. Erdman did note a

tendency in some of the studies for high school youths to be more realistic in their vocational choices when intelligence was used as the criterion.

Walter and Marzolf (1951) studied sex differences in level of aspiration of pupils from grades 4, 6, 8 and 12. One of their conclusions was that goal discrepancy scores were significantly higher for boys than for girls. A secondary finding suggests academic success or failure was not an important factor influencing level of aspiration. As previously cited, McCoy found the reverse with EMH students.

Lehman (1951) found parental attitudes affect job placement. Families of superior social status were unwilling to accept placement of their retarded child in lower class jobs. Peckham (1951) found both parental and client "unrealism" about the retardates capacity interfered with job adjustment. He also cited illiteracy and family over-protection as presenting problems in the job adjustment area. These findings are consistent with those of Erdman.

Definitions

Educable Mentally Handicapped

For the purposes of this study, the definition of educable mentally handicapped (EMH) used by the Illinois Office of Superintendent of Public Instruction will be accepted:

> ". . . children between the ages of 5 and 21 years who, because of retarded intellectual development as determined by individual psychological examination, are incapable of being educated profitably and efficiently through ordinary classroom instruction but who may be expected to benefit from special educational facilities designed to make them economically useful and socially adjusted. . . .

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> The rate of mental development of educable mentally handicapped children is approximately one-half to four-fifths that of children with average intelligence. This is generally interpreted to mean an I.Q. of 55 to 80 on an individual test of intelligence such as the Binet or Wechsler, except that other relevant factors must also be considered. . . .
>
> Older children being considered for high school special class programs, who have been in an elementary special class program for a number of years and attain IQ's not to exceed 90, may be approved for continued eligibility if they remain incapable of being educated profitably and efficiently through ordinary classroom instruction." (Office of Superintendent of Public Instruction, 1964, Rules 8.01 and 8.06)

Trainable Mentally Handicapped

While trainable mentally handicapped children are not included in this study, the Illinois definition is presented for clarity:

> ". . . children between the ages of 5 and 21 who, because of retarded intellectual development, as determined by an individual psychological examination, are incapable of being educated properly and efficiently through ordinary classroom instruction or special education facilities for educable mentally handicapped, but who may be expected to benefit from training in a group setting designed to further their social adjustment and economic usefulness in their homes or in a sheltered environment. Any such child shall be regarded as eligible for special educational facilities only as long as benefit to him from the program can be determined to exist." (School Code of Illinois, 1965, Sec. 14-1.05.)
>
> ". . . The rate of mental development of trainable mentally handicapped children is approximately one-third to one-half that of children with average intelligence. This is generally interpreted to mean an I.Q. score of 35 to 55 on an individual test of the Binet type, except that other relevant factors must also be considered." (OSPI, 1964, Rule 9.01.)

CHAPTER II

PROCEDURES

The purpose of this chapter is to describe the procedures and data collection devices utilized in this study.

Selection of Population

As reported in Chapter I, 98 special classes for EMH students were operating in the public high schools of Illinois during the 1965-66 school year. Collection of data for this number of classes was not feasible due to limitation of time and budget. A decision was made to include those secondary programs with two or more special teachers of the EMH in public high schools (grades 9-12 or 10-12) outside of the Chicago Public Schools. The State encourages the operation of a minimum of two classes in any high school program for the EMH and prescribes that the chronological age range for any given class ". . . shall not exceed a span of more than four years . . ." (OSPI, 1964, Rule 8.15, p. 44). It is doubtful any given four year high school program with only one class could meet this standard.

Thirteen districts outside the City of Chicago operated programs with two or more teachers. The thirteen programs, comprising 32 special classes, were deemed adequate in number for this study. (Appendix A)

Letters were prepared and sent to the director of special education in those districts employing a director and to the superintendent of schools in those districts not employing a director. The letters described the study and requested the cooperation of the district in

collection of data (see Appendix B for sample letter). All thirteen districts agreed to cooperate.

Collection of Data

Visitations were made to each of the thirteen high schools during the period of March 11, 1966 through May 20, 1966 to collect necessary data for the study.

One day was spent in each district. Actual time required ranged from five to eight hours depending on the number of classes, location of classes, and availability and location of required information on each child enrolled.

To enlist rapport of teachers and administrators of the district during the visitations, the investigator spent time in conferences with school district personnel. Consultation on practices in other school districts regarding operation of EMH programs, curriculum and materials, legislative requirements under the mandatory law and other topics were discussed.

Construction and Use of Data Collection Devices

To complete this study, it was necessary to develop various devices to collect necessary data. Development of these devices and a description of their use follows.

Program Criteria Index. Evaluation of the thirteen programs in the study was necessary to rank the programs for purposes of statistical analysis described later in this chapter. This required the development of the Program Criteria Index (Appendix C).

Since the study involved Illinois secondary programs, rules and regulations established by the Illinois Office of Superintendent of Public Instruction (1964) were the major source of areas covered in program evaluation. The Program Criteria Index is divided into eight sections.

Section one covers teacher personnel:

I. Teacher Personnel (Average Score for Program)

1. a. Fully trained teacher (2 points per teacher)

b. Provisionally certified teacher (1 point per teacher)

2. Training received in full time resident study

3. Both male and female teachers in the program

4. Teacher trained in another area of secondary education in addition to EMH

5. Secondary teaching experience in area other than EMH

6. Teacher has had work experience other than teaching (summer, part time, full time).

State rules and regulations prescribe requirements relating to levels of training required for special class teachers. Two basic methods of meeting these requirements exist: full time resident study at the bachelor's or master's degree levels; and summer, extramural and extension courses generally taken by experienced teachers desiring to meet State requirements or those granted provisional status. The presence of male and female students in classes is generally felt to make it desirable to employ both male and female teachers for a program at the high school level. Training in another area of secondary education may or may not be desirable but training in home economics or industrial

arts would seem to offer sound parallels for high school EMH teachers. Curricular outlines cited in Chapter I emphasize these areas. Experience in teaching normal adolescents in high school would seem to be desirable to acquaint the teacher with adolescent behavior. Occupational education and work study programs mentioned previously as being essential for high school programs appear to make it desirable that the teacher has experience, even of a limited nature, at work other than teaching.

Section II covers diagnostic and counseling services:

II. Diagnostic and Counseling Services

1. Psychological service readily available (reevaluation possible during three year eligibility period)

2. Social work service readily available (one or more students now being seen or could be referred)

3. Vocational counseling by

   a. school educational counselor

   b. vocational counselor for the handicapped

   c. local vocational rehabilitation counselor

   d. state employment service

4. Vocational counseling begins before ninth grade

5. Parents also seen by counselor.

Items one and two are covered by State rules with psychological services required and social work service recommended. Vocational counseling is seen as necessary in high school programs for the EMH. All high schools in the State have educational counselors available to students but often these counselors resist working with the EMH on the basis they really don't know the problems of the retarded. Employment of a special vocational counselor for the handicapped--

such as prevocational counselors as mentioned previously--is seen as desirable. Vocational rehabilitation and state employment service personnel can offer specialized assistance in vocational counseling and job placement for the EMH. Interpretation of needs and cooperation of the school are often the key to gaining the services of these agencies. While the special teacher of the EMH often begins relating school tasks to the world of work in the elementary and junior high school years, vocational counseling by a specialist is often of some benefit prior to the ninth grade level. Keeping parents informed of vocational planning should result in continued parent cooperation with the school and prevent parent misunderstandings of the nature of the program available.

Section III covers housing and facilities:

III. Housing and Facilities

1. Classroom comparable in size to other classrooms in building
2. Central location in building (not isolated from other classrooms)
3. Adequate vocationally oriented equipment in room (typewriter, adding machine, tools, sewing machine, etc.)
4. Access to audio-visual aids and equipment
5. Classroom designed and constructed or remodeled for EMH.

Items one and two are prescribed by the State. Vocationally oriented equipment in the special classroom is often used to assist the student in adjusting to a given work placement or regular class setting. High schools make wide use of audio-visual aids and equipment. These media have many uses in the special class and the access to them is often an

indication of administrative acceptance and support of the EMH program. Remodeling and preplanned construction of classrooms for EMH allows more flexibility in program planning by the special teachers. Such things as small group study areas, additional chalkboard and bulletin board space, small kitchens and workshops are often desirable in the special classroom.

Section IV covers work study program:

IV. Work-Study Program

1. All juniors and seniors participate
2. Coordinated and supervised by special staff member
3. Leads to credit toward graduation
4. Community experiences available
5. In-school experiences available
6. Sheltered workshop available.

The first item discusses participation by all juniors and seniors to determine whether a selection factor for only the best students is operating. A special staff member devoting full time to this program is felt to be far better than the special teacher working after school or having an hour or two released time to coordinate the program. Work experience during the school day should not penalize the student in his pursuit of graduation or completion of the program. The three levels of work experience which conclude the section are typically necessary to serve all the needs of the EMH children found in high school programs. The sheltered workshop is often necessary for students of the lower level of intellectual functioning and those who suffer from additional handicapping conditions.

Section V covers vocationally oriented curriculum:

V. Vocationally Oriented Curriculum

1. Evidence of commercially prepared vocational materials
2. Evidence of specific teacher prepared vocational materials adapted to the community
3. Instruction geared to life applications
4. Vocationally oriented field trips
5. Use of community resource personnel (business, industry, agency, etc.)
6. Regularly scheduled vocations or occupations course
7. Three or four year sequential program for all who enter
8. Regular diploma granted when specific requirements are met
9. Participation in formal graduation ceremony.

The State specifies that the district operating the program is responsible for development of the special course of study but specifically cites prevocational training and guidance as essential.

The first six items of this section of the Index are derived from this area of State regulations. A three or four year program for all who enter again attempts to determine whether only the best students are allowed to continue in the special program. While most of the EMH students in Illinois programs are allowed to participate in formal graduation ceremonies, diploma granting varies greatly. The mandatory law specifies granting of regular diplomas after July 1, 1966.

Section VI covers participation in regular classes and all school activities:

VI. Participation in Regular Classes and All School Activities

1. Integration in regular classes

a. all participate in at least one area

b. physical education

c. art

d. music

e. shop or home ec.

(1) boys and girls in both areas

f. vocational education courses (auto mechanics, agriculture, metal, building trades, DO, OO, DE, vocational home ec)

g. one other area

h. two other areas

i. three other areas

j. acceptance of EMH by regular teachers

2. Participation in extra-curricular activities possible

a. all school functions (parties, dances, etc.)

b. athletics

c. clubs

d. music

e. drama

f. intramural

This section does not attempt to measure extent of participation as did Fuchigami (1964). Instead a measure of administrative acceptance and support is again possibly obtained by determining whether such activities and regular classes are available to the EMH. The list of

classes and activities is drawn from the most common areas as found by Fuchigami (1964). Amount of participation in extra-curricular activities is often limited by transportation of students to their homes after school. This is particularly true in cooperative or joint agreement operation of programs where a given student may reside several miles from the high school he attends.

Section VII covers administration and budget:

VII. Administration and Budget

1. Full time director of special education
2. Full time supervisor or coordinator of EMH
3. Specific budget allocation for high school program (material and supplies, equipment, maintenance)
4. Teachers participate in ordering materials, supplies, etc.

This section was included to determine the support and assistance available to the special class teachers. State regulations prescribe requirements for directors and supervisors and allow employment of an approved supervisor for the EMH program when ten or more special classes exist in the program. A specific budget allocation for the high school program tends to insure adequate materials and supplies for class operation and also reflects administrative support. Participation of the teachers in selection of necessary supplies and materials is desirable and logical since the teacher is the specialist in the area.

Section VIII covers parent knowledge of program:

VIII. Parent Knowledge of Program

1. Parent education group in operation

2. Interpretation of total program including high school made to parent at time of entry

3. Interpretation of high school program made on high school entry.

Parent knowledge of the program is important as mentioned previously. A parent education program is one device used to inform parents of program operation. A parent education group may also assist in solving minor problems encountered by parents of the EMH through planned programs or mere contact with other parents who have experienced the problem. Individual or small group interpretation of the program to parents also acquaints the parents with program goals and objectives. These interpretations may also assist the parent in adjusting or setting more appropriate goals for their EMH child.

The Program Criteria Index is intentionally slanted toward vocational aspects of the program due to the nature of this study. It is not intended to be a comprehensive list of possible program elements for the total high school EMH program.

The Program Criteria Index was completed for each program included in the study. In conferences with the director of special education, superintendent of schools, high school principal and special teachers, it was determined whether each item existed in the given program. No attempt was made to determine the quality of the service. Personal observation of classroom size, location, materials, etc., resulted in some cases in revision of original ratings but this was always completed in another conference with the appropriate school personnel.

Rating of each program was achieved on the basis of total points given with a zero or one possible for each item unless otherwise specified in the Index. The teacher personnel section was based on the

average rating for the total number of teachers in the program.

Class Data Sheet. The Class Data Sheet (Appendix D) was used to collect background information on each student and teacher. The student information was collected primarily from cumulative records. Each student was requested to write his father's occupation and educational level on his answer sheet since this information was often not available or not current in cumulative records. Information on each student was reviewed with the teacher for accuracy. Teacher information was obtained directly from each teacher.

For purposes of coding father's occupation and educational level for data analysis Warner's seven point Revised Scale for Rating Occupation (Warner, 1960, pp. 140-141) and his seven point classification for rating education (Warner, 1960, p. 154) were utilized. Warner's scale on occupations did not allow for unemployed or those in prison. "In prison" was arbitrarily assigned a rating of seven corresponding to unskilled manual labor and "unemployed" was arbitrarily assigned a rating of nine. When a specific reported occupation was not listed in the Warner scale, the U.S. Bureau of the Census (1960) Alphabetical Index of Occupations and Industries was used to assign that occupation to the Warner scale for similar occupations. In 49 of the cases included in the study, information on the father's occupation and educational level was not available due to death, divorce, or separation. In these cases the mean of these variables for the remaining 324 cases was computed and assigned to these unknowns. The mean educational level assigned was four (one to three years of high school) and the mean occupational level assigned was five (skilled occupations).

Could You Ever Scale. Measures of vocational outlook of the retardates were obtained through the use of a "Could You Ever?" scale after Blackman (Ausubel, et al., 1954) and modified by McCoy (1960) for use with retardates.

A list of vocationally oriented jobs and skills was selected from McCoy's list and Dictionary of Occupational Titles (DOT) to include jobs from all nine DOT categories: Professional, Technical and Managerial; Clerical and Sales; Service; Farming, Fishing, Forestry and Related; Processing; Machine Trades; Bench Work; Structural Work; and Miscellaneous. The list included twenty-six skills appropriate for either sex; four skills each for males and females; eighteen specific job titles appropriate for either sex; eighteen specific jobs for males and twelve for females.

This list was submitted to five graduate fellows in the Institute for Research on Exceptional Children at the University of Illinois who had previously served as high school special class teachers of the EMH, with the request that they indicate which of the items they believed could be achieved by ninety per cent of the educable mentally handicapped at some time in their lives. Decisions were to be made on the basis of professional education, knowledge of former EMH students they had known, and knowledge of follow-up studies of the EMH.

Items which four or five of the raters marked as possible for the EMH were designated as appropriate skills or jobs for the EMH. Items which were not marked as possible for the EMH by any of the raters were designated as inappropriate skills or jobs. Items which were marked as appropriate by three or fewer of the raters were

discarded from further consideration.

A total of nine skills (eight for either sex and one each for males and females) were deemed appropriate. Fourteen skills (eleven for either sex, three for males, and one for females) were deemed inappropriate.

A total of twenty one jobs (seven for either sex, ten for males and four for females) were designated as appropriate. Twenty three jobs (eleven for either sex and six each for males and females) were designated as inappropriate.

An arbitrary decision was made to draw forty items for the scale from the resulting pool. Eighteen skills (nine each appropriate and inappropriate) were drawn at random. Twenty two jobs (eleven appropriate and eleven inappropriate) were also drawn at random. Two of the skill items and eight of the job items were paired items with an item for each sex. The skills and jobs were again drawn at random to determine serial position in the scale. Each item was preceded by the phrase "Could you ever". (See Appendix E for Scale)

Due to the wide range of reading ability of adolescent EMH students, the directions and the scale were read to students in each classroom group. Each student responded by circling "Yes" or "No" on his answer sheet (Appendix F).

A pilot administration of the scale was completed in two high school EMH classes not to be utilized in the study. Teachers of the two classes were also asked to respond to the items on the same basis as the rating group. Close agreement was found between the teachers and the raters. This practice was also followed in each of the classes included in the study. The teachers were asked to respond in order to

gain an indication of possible teacher bias which might be reflected in student responses.

Three scores were determined for each student: (1) appropriate Yes responses; (2) inappropriate Yes responses; and (3) net score (appropriate minus inappropriate).

Collection of data on vocational outlook in this manner differed from Erdman (1957) by presenting specific items. Erdman used a free choice system asking what each subject would like for his occupation.

In each high school the scale was administered in the special class. Repeated administrations were required to gain responses from students attending regular classes during the first administration and when classes were located on separate campuses within the district. No attempt was made to follow up and collect data on students absent due to illness or other causes.

Per Capita Educational Fund Expenditure. An additional statistic collected for each program is associated with per pupil expenditure of educational funds for the total school program. Chalfant (1965) found a "Financial Ability" factor of some value in predicting the existence of EMH classes in the counties of Illinois. He used assessed valuation and average daily attendance on a county level as the basis for his factor. For the present study the district educational fund expenditures (comprising costs of salaries, materials and supplies) was divided by the average daily attendance for the district to arrive at the average educational fund expenditure per pupil in the total district. This expenditure does not include operation and maintenance of buildings or capital outlay for building

construction which have indirect influences on educational program.

The Division of Finance and Statistics, OSPI, furnished the required information from state aid claim forms and financial reports required by the State. The figures were taken from 1964-65 school year reports since 1965-66 forms are not required until August of 1966. In the case of joint agreement districts, the educational fund expenditures and average daily attendance figures for each district in the joint agreement were totaled before the average was computed for the program. (Table 7 includes this average expenditure for each program.)

Statistical Treatment

Nonparametric techniques were deemed most appropriate for statistical treatment of data due to the unknown parameters of the population under study and the ordinal nature of the data. Rank correlation and chi square techniques were utilized to determine possible relationships between program and vocational outlook of students and other areas included in the previous statement of the problem.

Data was analyzed by the IBM 7094 computer to allow rapid processing of information on the 373 students included in the study.

Summary

This chapter has described the selection of the population for study, collection of data and devices utilized in said collection, and statistical treatment of data. General procedures have also been discussed.

CHAPTER III

RESULTS

Results of the investigation will be presented in this chapter. The first section of the chapter will present descriptive information on the student population and the teachers included in the study. The second section of the chapter will report results of statistical analysis of data completed to establish possible relationships outlined in the purpose of the study.

Description of Student Sample

The total number of students included in this study was 373. Two hundred-two (54.1%) of the students were males. Eighty-eight (23.9%) of the students were non-white. One non-white was Mexican and the rest were Negro. The mean chronological age was 16.12 years with a range from 13 through 21 years.

The mean I.Q. as measured by the most recent individual test of intelligence--usually the WAIS, was 70.31 with a range from 46 through 93. Difference in distribution of males and females in I.Q. groupings is shown in Table 2. A greater proportion of males are in the higher I.Q. group and a greater proportion of females in the lower group. The middle I.Q. group contains approximately equal proportions of males and females. A chi square test of independence was done with a resultant chi square of 9.12 which is significant. $P(X^2 \geq 7.82) = .02$ $P(X^2 \geq 9.21) = .01$.

The mean reading level, as measured by the most recent group achievement test, was found to be at the 4.38 grade level with a range

Table 2. Composite Description of Student Sample

Variable	Categories	No. of Males	% of Males	No. of Females	% of Females	No. of Sample	% of Sample
Age as of Dec. 1, 1965	13 and 14 years	11	5.5	13	7.6	24	6.4
	15 and 16 years	98	48.5	86	50.3	184	49.3
	17 and 18 years	78	38.6	66	38.6	144	38.6
	19 and 20 years	14	6.9	6	3.5	20	5.4
	21	1	.5	0	0.0	1	.3
	Total	202	100.0	171	100.0	373	100.0
Race	Non-white	40	19.8	48	28.1	88	23.9
	White	162	80.2	123	71.9	285	76.1
	Total	202	100.0	171	100.0	373	100.0
Intelligence Quotient	60 or below	17	8.4	30	17.5	47	12.9
	61 to 74	105	52.0	94	55.0	199	53.5
	75 and above	80	39.6	47	27.5	127	33.6
	Total	202	100.0	171	100.0	373	100.0
Reading Grade Level	0--1	12	5.5	6	3.5	18	4.5
	2--3	81	40.3	47	27.5	128	33.9
	4--5	87	43.3	96	56.1	183	49.7
	6--7	17	8.4	18	10.5	35	9.4
	8--9	5	2.5	4	2.4	9	2.4
	Total	202	100.0	171	100.0	373	100.0
Years in EMH Classes	1 or 2	35	17.3	37	21.6	72	19.5
	3 or 4	44	21.8	36	21.1	80	21.4
	5 or 6	42	20.8	36	21.1	78	20.9
	7 or 8	43	21.3	25	14.6	68	17.9
	9 or 10	22	10.9	28	16.4	50	13.7
	11 or 12	0	0.0	0	0.0	0	0.0
	13 and over	16	7.9	9	5.2	25	6.6
	Total	202	100.0	171	100.0	373	100.0
Years in High School	1	81	40.1	63	36.8	144	38.4
	2	52	25.8	54	31.6	106	28.7
	3	34	16.8	27	15.8	61	16.3
	4	35	17.3	27	15.8	62	16.6
	Total	202	100.0	171	100.0	373	100.0
Work Experience History	No Experience	65	32.2	68	39.8	133	36.0
	In-school Job	29	14.4	36	21.0	65	17.7
	Sheltered Workshop	10	4.9	9	5.3	19	5.1
	Community Job	98	48.5	58	33.9	156	41.2
	Total	202	100.0	171	100.0	373	100.0

from 0.7 through 9.9 grade level. The mean number of years enrolled in EMH classes was 5.6.

Table 2 presents a composite of the sample variables on the basis of sex. Distribution of the sample by other variables did not show significant differences. A composite description of sample variables relating to home and family background is contained in Appendix G.

Description of Teachers

A total of 32 teachers of special classes for the EMH were employed in the thirteen programs included in the study. In general the teachers were young and fully trained in full-time resident study. The majority had taught only high school EMH classes. Only three of the teachers had not been employed at least part-time in some field other than teaching.

Table 3 presents a composite description of the teachers included in the study.

Scores on Could You Ever Scale

Mean scores on the Could You Ever scale are reported together with standard deviations for both students and teachers in Table 4. The net score is derived by subtracting the number of inappropriate "yes" responses from the number of appropriate "yes" responses. White males obtained the highest mean net score (11.83) and non-white females obtained the lowest mean net score (9.10). The differences in these groups were not statistically significant.

Table 3. Composite Description of Teachers

Characteristic	Categories	No. of Males	% of Males	No. of Females	% of Females	No. of Sample	% of Sample
Age	21 to 30	6	35.3	10	66.6	16	50.0
	31 to 40	6	35.3	1	6.7	7	21.9
	41 to 50	4	23.5	1	6.7	5	15.6
	51 to 60	0	0.0	3	20.0	3	9.4
	61 and over	1	5.9	0	0.0	1	3.1
	Total	17	100.0	15	100.0	32	100.0
Level of Training	Provisional	2	11.8	1	6.7	3	9.4
	Fully-Trained	15	88.2	14	93.3	29	90.6
	Total	17	100.0	15	100.0	32	100.0
Method of Training	Part-Time	7	41.2	6	40.0	13	40.6
	Resident Study	10	58.8	9	60.0	19	59.4
	Total	17	100.0	15	100.0	32	100.0
Years of Elementary Teaching	None	10	58.8	9	60.0	19	59.3
	1 to 3	2	11.8	3	20.0	5	15.8
	4 to 7	3	17.6	1	6.6	4	12.5
	8 to 11	2	11.8	0	0.0	2	6.2
	12 to 15	0	0.0	1	6.7	1	3.1
	16 and over	0	0.0	1	6.7	1	3.1
	Total	17	100.0	15	100.0	32	100.0
Years of Secondary Teaching	None	10	58.8	12	80.0	22	68.8
	1 to 3	1	5.9	1	6.7	2	6.2
	4 to 7	3	17.6	1	6.7	4	12.5
	8 to 11	2	11.8	0	0.0	2	6.3
	12 to 15	0	0.0	0	0.0	0	0.0
	16 and over	1	5.9	1	6.6	2	6.2
	Total	17	100.0	15	100.0	32	100.0
Years of Elementary EMH Teaching	None	11	64.7	12	80.0	23	71.9
	1 to 3	4	23.5	2	13.3	6	18.7
	4 to 7	2	11.8	1	6.7	3	9.4
	Total	17	100.0	15	100.0	32	100.0
Years of Secondary EMH Teaching	1 to 3	6	35.3	10	66.6	16	50.0
	4 to 7	9	52.9	3	20.0	12	37.6
	8 to 11	2	11.8	0	0.0	2	6.2
	12 to 15	0	0.0	1	6.7	1	3.1
	16 and over	0	0.0	1	6.7	1	3.1
	Total	17	100.0	15	100.0	32	100.0
Work Experience Other Than Teaching	No	1	5.9	2	13.3	3	9.4
	Yes	16	94.1	13	86.7	29	90.6
	Total	17	100.0	15	100.0	32	100.0

Table 4. Could You Ever Scale Mean Scores and Standard Deviations -- Students and Teachers

Score	Student Sample	Teachers
Mean Appropriate	16.79	16.16
Standard Deviation	2.98	2.02
Mean Inappropriate	5.89	1.09
Standard Deviation	3.99	3.59
Mean Net	10.87	15.06
Standard Deviation	4.08	3.77

The ranges of scores are reported in Table 5.

Table 5. Could You Ever Scale Score Ranges -- Students and Teachers

	Students		Teachers	
Score	Low	High	Low	High
Appropriate	3	20	13	20
Inappropriate	0	20	0	20
Net	-4	19	-3	19

"Teacher X" obtained a net score of negative three on the Could You Ever scale. The next lowest net score for teachers was twelve. "Teacher X" obtained an inappropriate score of twenty and the next highest inappropriate score for teachers was four. The net score of "Teacher X" was found to be 4.78 standard deviations from the mean net score of the teachers and was thus significantly different $P(z < -4.0) = .00003$.

The mean scores of students in the class of "Teacher X" did not differ significantly from the means of the sample as shown in Table 6.

Table 6. Comparison of Mean Scores and Standard Deviations of Student Sample and Students Assigned to "Teacher X"

Score	Student Population	Students Assigned to "Teacher X"
Mean Appropriate	16.79	17.00
Standard Deviation	2.98	2.94
Mean Inappropriate	5.89	5.64
Standard Deviation	3.99	4.15
Mean Net	10.87	11.36
Standard Deviation	4.08	4.58

Program Rankings

Analysis of each of the thirteen programs included in the study was achieved by using the Program Criteria Index. The ratings for the programs ranged from 31.5 to 53.5 with a mean of 41.4. No ties were found which allowed for ranking from one to thirteen. Table 7 includes ratings and ranks for the programs. Table 7 also includes mean scores for students and teachers and ranking on the basis of these scores.

Education Fund Expenditure Per Pupil in Average Daily Attendance

Expenditure per pupil in the school districts represented by the thirteen programs ranged from $477 to $1,204 with a mean of $817.39. Table 7 includes these dollar amounts and rankings for each program. While wide ranges existed on Program Criteria Index ratings and the education fund expenditures, a relatively narrow range existed between programs on the mean scores.

Statistical Analysis

Rank Correlations

A series of rank correlations were computed on the variables

Table 7. Ranking of Programs on Program Criteria Index, Education Fund Expenditure, Sample Mean Scores and Teacher Mean Scores

Program	Criteria Index Rating	Rnk	Expense Factor	Rnk	No. of Students Tested	Student Scores: Mean App.	Rnk	Mean Inapp.	Rnk	Mean Net	Rnk	Teacher Scores: Mean App.	Rnk	Mean Inapp.	Rnk	Mean Net	Rnk
A	53.5	1	890	4	42	16.45	9	5.07	3	11.38	4	14.75	11	0	4	14.75	9
B	49.0	2	1,033	3	37	16.30	11	6.81	12	9.54	13	16.00	8	0	4	16.00	5.5
C	48.5	3	684	10	23	17.09	5	5.83	7	11.26	6	16.00	8	1	9	15.00	7.5
D	46.0	4	1,117	2	29	17.45	3	6.00	9	11.44	3	17.00	4.5	0	4	17.00	3
E	45.0	5	606	11.5	32	16.25	12	5.84	8	10.40	10	14.30	13	0.3	8	14.00	12
F	42.5	6	477	13	22	16.64	8	6.05	10	10.59	9	19.00	1	2.5	12	16.50	4
G	41.5	7	606	11.5	22	17.91	1	6.59	11	11.32	5	16.00	8	0	4	16.00	5.5
H	40.0	8	850	7	20	16.40	10	4.70	2	11.70	2	16.67	6	2.0	11	14.67	10
I	37.0	9	718	9	27	16.85	6	5.78	6	11.07	7	17.50	3	0	4	17.50	2
J	36.5	10	749	8	32	17.66	2	7.91	13	9.75	12	18.50	2	0.5	9	18.00	1
K	34.0	11	866	6	27	17.33	4	4.56	1	12.78	1	14.50	12	0	4	14.50	11
L	33.5	12	1,204	1	29	15.69	13	5.52	4	10.17	11	15.00	10	0	4	15.00	7.5
M	31.5	13	886	5	31	16.68	7	5.61	5	11.06	8	17.00	4.5	10	13	7.00	13

contained in Table 7. Results of these computations are reported in Table 8. None of the thirteen correlations computed on the thirteen programs in this manner proved significant.

Table 8. Rank Correlations on Thirteen Programs and Total Program Criteria Index

Variable	Student Means			Educ. Fund Expenditures
	Appropriate	Inappropriate	Net	
Program Ranking	-.10	-.29	-.04	-.06
Educ. Fund Expenditures	-.25	.30	-.10	
Teacher Means in Each Program				
Appropriate	.35			-.19
Inappropriate		.03		.25
Net			-.16	-.08

N=13 With N=12 $P(r' \geq .506)=.05$
N=14 $P(r' \geq .456)=.05$

Recognizing that the Program Criteria Index could be divided into several sections -- those pertaining directly to vocational and occupational training and those pertaining to other aspects of the program -- various rerankings were completed as shown in Table 9. Additional rank correlations were completed for these rerankings as shown in Table 10. No significant correlations were obtained in this manner.

The thirteen programs were then divided into the eight suburban programs (A, B, D, E, G, H, J and K) and the five downstate programs (C, F, I, L and M) and rank correlations were again computed on the basis of these divisions. Tables 11 and 12 report these correlations. Table 11 reports significant negative correlations between Program Criteria Index ranking of suburban programs and mean appropriate and mean net scores.

Table 9. Ranking of Programs on Selected Combinations of Sections of Program Criteria Index

(1) Program	(2) Teacher Rating	(3) Diagnostic & Counseling Rating	(4) Work Study Rating	(5) Total Col. 3&4	(6) Rnk	(7) Vocat. Curric.	(8) Total Col. 2, 3,4,7	(9) Rnk	(10) Housing & Facilities Rating	(11) Participation & Integration Rating	(12) Admin. & Budget Rating	(13) Parent Knowledge Rating	(14) Total Col.10, 11,12 & 13	(15) Rnk
A	4.5	8	6	14	1	7	25.5	1.5	5	16	4	3	28	1
B	5.0	6	4	10	4	9	24.0	3	5	15	3	2	25	3
C	4.5	7	6	13	2	8	25.5	1.5	3	13	4	3	23	5
D	3.0	5	5	10	4	7	20.0	7.5	5	16	2	3	26	2
E	4.0	5	5	10	4	8	22.0	4	5	13	4	1	23	5
F	3.5	5	3	8	8	8	19.5	9	5	14	2	2	23	5
G	3.5	4	5	9	6	8	20.5	5.5	4	11	4	2	21	8.5
H	5.0	5	3	8	8	7	20.0	7.5	4	13	2	1	20	10
I	4.0	4	3	7	10.5	5	16.0	11	3	13	3	2	21	8.5
J	3.5	3	2	5	12	6	14.5	13	5	11	4	2	22	7
K	4.0	1	3	4	13	7	15.0	12	5	11	2	1	19	11
L	4.5	4	4	8	8	8	20.5	5.5	3	7	2	1	13	13
M	4.5	4	3	7	10.5	5	16.5	10	1	10	2	2	15	12

Table 10. Rank Correlations on Thirteen Programs and Selected Sections of Program Criteria Index

Sections of Criteria Index	Student Means App.	Inapp.	Net	Expenditure
Diagnostic & Counseling & Work Study	-.25	-.13	.03	.08
Teacher, Diagnostic & Counseling, Work Study, Vocational Curriculum	-.40	-.01	-.04	.10
Housing & Facilities, Participation & Integration, Administration & Budget, Parent Knowledge	.04	-.41	-.03	-.05

N=13 With N = 12 $P(r' \geq .506) = .05$
N = 14 $P(r' \leq .456) = .05$

In examination of rankings during computations of correlations, it was noted suburban programs B and K were contributing large squared deviations to the computation. Program B ranks second as a program and has the lowest student mean net score and program K ranks eleventh as a program and has the highest student mean net score. These differences may be noted in Table 7.

Table 11. Correlations on Suburban Programs

	Student Scores Mean App.	Mean Inapp.	Mean Net	Expense Factor
Program Rating	-.81*	-.19	-.81*	.47

*Significant Correlation

N = 8 $P(r' \geq .64) = .05$
$P(r' \leq .83) = .01$

Table 12. Correlations on Downstate Programs

	Student Scores			Expense Factor
	Mean App.	Mean Inapp.	Mean Net	
Program Rating	.50	-.80	.50	-.80

N = 5 $P(r' \geq .90) = .05$

An arbitrary decision was made to withdraw programs B and K from consideration temporarily and compute correlations on the remaining eleven programs. Table 13 reports these correlations.

Table 13. Correlations on Eleven Selected Programs

	Student Scores			Expense Factor
	Mean App.	Mean Inapp.	Mean Net	
Program Rating	-.06	-.05	.49	-.20

N = 11 With N = 10 $P(r' > .564) = .05$
N = 12 $P(r' \geq .506) = .05$

While significant correlations were not found, the correlation between program rankings and mean net scores approached significance. Checks were made for possible curvilinear relationships following the calculation of rank correlations but none were found.

Chi Squares

A series of chi squares were computed for the appropriate, inappropriate and net scores and various student variables. The scores were divided into dichotomies by the sample median. The sample median was also used to dichotomize chronological age, father's occupation and educational level, reading level, I.Q. and years in EMH classes. Sex, race, and broken home variables were natural dichotomies. Welfare status was dichotomized on a yes or no basis. Year

in high school was dichotomized by grouping years one and two, and years three and four. Year in high school was also analyzed on a four year basis. Work experience was analyzed in the four categories of none, in-school experience, sheltered workshop experience, and community work experience.

Due to the exploratory nature of this study, the investigator selected the .10 level for significance of chi squares.

Thirteen significant chi squares were found. Resultant chi squares are reported in Table 14.

Examination of the significant chi squares found with the three obtained scores and sex, father's occupation, father's educational level, I.Q., and work experience led to further chi square analysis.

Father's occupation and father's educational levels were divided into new groupings other than above and below the median as in previous computations. This was done to determine any differences in socio-economic classes.

The new groupings of father's occupation consisted of four groups: professional, technical and business officials; minor business officials and skilled small business owners; skilled workers; and semi-skilled, unskilled and unemployed. Chi squares were computed for these groups and the three student scores dichotomized by the median. Results of these computations are reported in Table 15.

A similar regrouping was done for father's educational level with three groups: professional, graduate school and college trained; high school graduates; and less than high school graduation.

Table 14. Chi Squares Computed on Student Variables

Variable	Student Scores		
	Appropriate	Inappropriate	Net
Sex	24.32[a]	.20	14.11[a]
Age	.59	7.17[a]	.59
Race	.07	4.24[a]	4.04[a]
Father's Occupation	1.74	3.19[a]	4.98[a]
Father's Educational Level	3.78[a]	.41	4.15[a]
Broken Home	.06	.03	.03
Welfare	.00	.00	.37
Reading Level	.13	.61	.02
I.Q.	7.53[a]	2.21	21.37[a]
Years in ESE Classes	.07	1.12	.01
Year in High School (4 years)	5.63	4.46	2.45
Year in High School (dichotomy)	.54	2.20	2.36
Work Experience	13.05[b]	2.07	8.88[b]

[a]Significant Chi Square with 1 df $P(X^2>2.71)=.10$, $P(X^2>3.84)=.05$, $P(X^2>6.64)=.01$, $P(X^2>10.83)=.001$

[b]Significant Chi Square with 3 df $P(X^2>6.25)=.10$, $P(X^2>7.82)=.05$, $P(X^2>11.34)=.01$, $P(X^2>16.27)=.001$

Chi squares were computed for these groupings and the student scores. Results are reported in Table 15.

A combination of father's occupation and educational level consisting of the 12 possible combinations was developed and chi squares computed. Table 15 also reports these results.

No significant chi squares resulted from these computations.

Table 15. Chi Squares Computed on Regrouping of Father's Occupation and Educational Level

Variable	Student Scores		
	Appropriate	Inappropriate	Net
Father's Occupation[a]	6.10	4.44	5.40
Father's Educational Level[b]	3.84	.41	4.18
Combined Occupation and Educational Level[c]	8.91	10.98	11.61

[a] with 3 df $P(X^2 \geq 6.25) = .10$
[b] with 2 df $P(X^2 \geq 4.60) = .10$
[c] with 9 df $P(X^2 \geq 14.68) = .10$

Significant chi squares found between the three variables -- sex, I.Q., and work experience -- and the three scores (see Table 14), led to analysis of work experience and the three scores controlling for sex and I.Q. Table 16 reports results of these computations.

Table 16. Chi Squares Computed on Work Experience Controlling for Sex and I.Q.

Variable	Student Scores		
	Appropriate	Inappropriate	Net
Work Experience			
Females	4.59	.97	1.42
Males	6.60[a]	2.66	7.09[a]
I.Q.			
Below Median	6.63[a]	3.01	1.67
Above Median	5.94	.35	6.17

[a] Significant Chi Square with 3 df $P(X^2 \geq 6.25) = .10$
$P(X^2 \geq 7.82) = .05$
$P(X^2 \geq 11.34) = .01$
$P(X^2 \geq 16.27) = .001$

Three significant chi squares are noted in Table 17. Males who had held community work experiences scored significantly higher than females on appropriate and net scores. The majority of both males and females scored below the median when they had not had community work experience.

CHAPTER IV

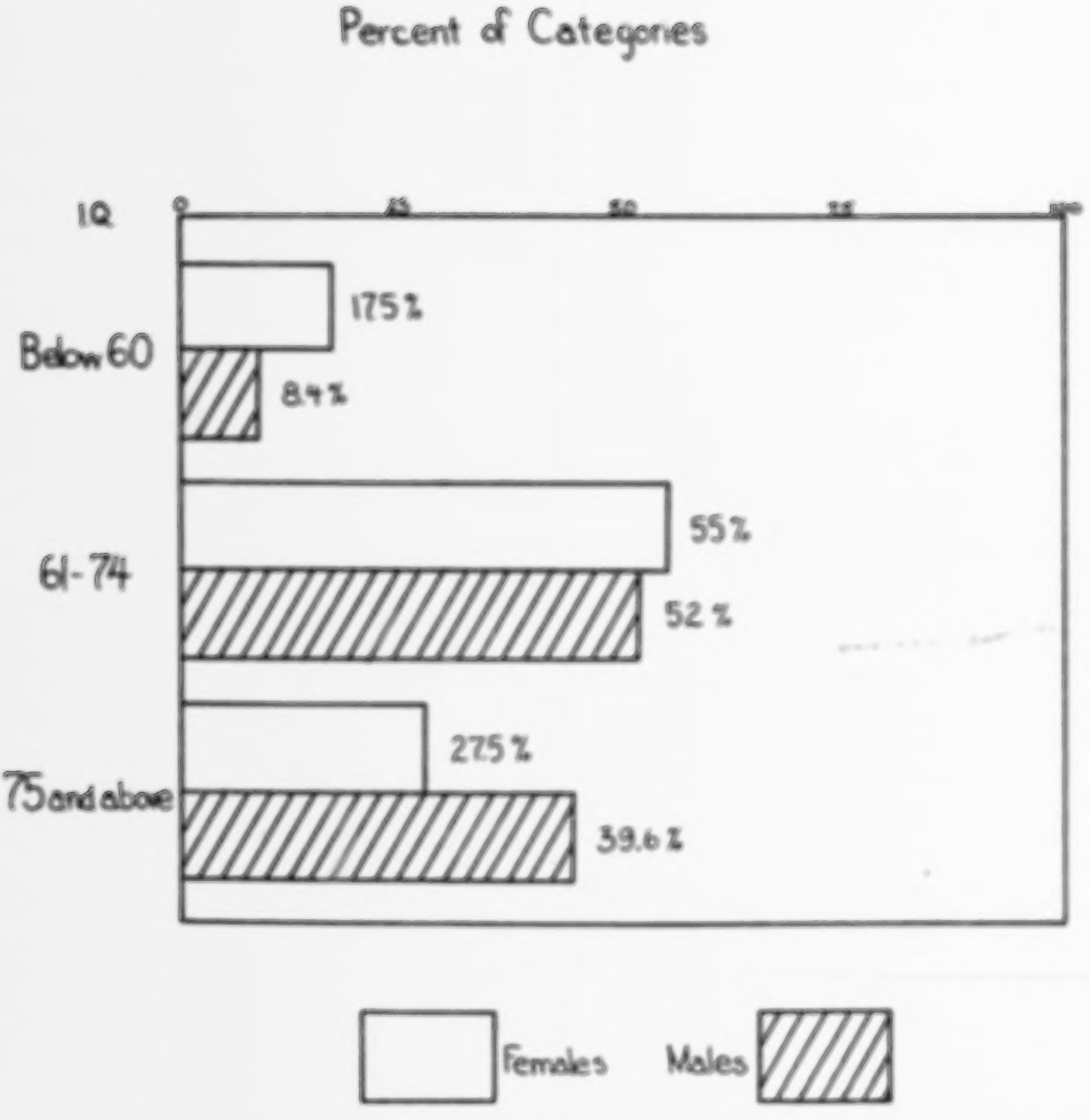
DISCUSSION

The central problem of this investigation was to determine possible relationships between vocational outlook of EMH adolescents and the high school special education program in which they were enrolled. Possible relationships between the EMH students' vocational outlook and his age, sex, race, intellectual level, reading achievement level, work experience history and home background have also been explored.

Prior to discussing these points, it becomes necessary to examine and discuss one significant finding on distribution of males and females in IQ groupings. Figure 1 graphically shows this difference as reported in Chapter III.

As seen in Figure 1 almost twice as many females were in the lower IQ group and twice as many males in the higher IQ group. The middle IQ group had approximately even numbers of males and females. Possible explanations for this significant difference are numerous. First it is generally recognized (Heber, 1964, p. 144) that retarded males are more aggressive and acting out than retarded females and are probably more readily referred by the regular class teacher for special class placement. This referral, while partially based on intellectual ability in the borderline EMH-dull normal range, may well be based primarily on behavior. It is also quite possible where a limited number of vacancies exist for special class placement, those eligible students selected may be those with the most behavior problems in regular classes.

Figure 1. Distribution of IQ by Sex



Second, the social graces typical of an adolescent female do not call negative attention to the individual and the regular class teacher does not detect intellectual retardation as readily in the female. Even though the female may be unable to master the academic tasks presented by the teacher, societal and peer group pressures call for more conforming classroom behavior on her part.

A third possible explanation deals with the larger number of females in the lower IQ range. The female with an IQ below 60 may be identified rapidly as a potential sex delinquent if she remains in a school situation where brighter males may be in a position to take advantage of her. In cases of this nature the regular class teacher making the referral may view the special class as more protective due to the closer relationship to the self-contained classroom and smaller number of children enrolled. Henderson (1957, pp. 40-41) found sex delinquency as a contributing factor (15.5%) to commitment of the EMH to Illinois state schools for the retarded. In New York City, Saenger (1960) found sexual offenses among retarded girls with IQs above 50 almost invariably led to institutionalization.

A fourth possible explanation relating to the smaller number of males in the lower IQ range is related to the school drop-out problem. The male is more able to leave school at the upper limit of mandatory attendance--16 years. This may be particularly true of the males in the EMH group. Again societal pressures on the female are more strict in this regard.

Fifth, the lower number of males in this lower range may be related to more aggressive behavior on the part of the males in general. A child in the 50-60 IQ range may be declared either

educable or trainable under present Illinois regulations. Maximum class size for trainable is 10 children, while EMH classes may enroll up to 15. Behavior may be a basis for placement in the smaller class. It is possible more males in this range have been declared trainable and are thus not found in the classes included in this study.

The sample consisted of 202 males and 171 females. Prior to the study, the investigator would have estimated the number of males would have been twice the number of females. This estimate would have been based on the investigator's ten years experience with public school classes for the retarded. Follow-up studies reported in Chapter I also consistently report a large majority of males. A possible explanation for this finding could be related to the drop-out problem and the large number of students residing in the higher socio-economic suburbs around Chicago.

While the investigator anticipated relationships between the measures employed for rating secondary school program offerings for the retarded and appropriateness of vocational outlook of the EMH students enrolled, this was not found to be true. Program ranking, educational fund expenditures and teacher mean scores all yielded small, insignificant correlations with vocational outlook.

This finding suggests that non-school factors exert greater influence on the vocational outlook of the EMH. Erdman (1957) concluded the home and community exerted greater influence on vocational choice of EMH males. Even in the case of "Teacher X" who obtained highly significant net and inappropriate scores indicating extremely

inappropriate estimates of the job capabilities of the EMH, the students enrolled in the class of "Teacher X" did not differ from the sample in their scores.

A limitation of this study which may have influenced these results is that no attempt was made to measure quality of program or service - only its existence.

Quality of program may provide a possible explanation to the results found with Programs B and K. While Program B ranked second on the Criteria Index, the students mean net score ranked thirteenth and in Program K almost a reverse was noted with a Criteria Index ranking of eleventh and student mean net score ranking first. The only significant correlation between program ranking and student mean scores obtained was negative and was highly influenced by the presence of Programs B and K in the Suburban Programs. A positive correlation approaching significance was obtained when Programs B and K were removed from consideration. Data collected failed to reveal the reason for these differences.

The lack of significant correlations with the program and the expense factor utilized may be explained by the various types of districts included in the study. It is recognized high school costs per pupil exceed those of elementary. Unit districts and a special charter district with kindergarten through 12th grade programs, high school districts with 9th through 12th grade programs, and joint agreements comprising both elementary and high school districts with the costs being averaged to arrive at the expense factor were compared as one group. No one type of district was predominant and costs of secondary programs only were not available. Could either

one type of district have prevailed or costs of secondary programs been collected, significant correlations may have resulted.

It can be hypothesized that extensive counseling with parents as to the job capabilities of their EMH child may be a possible means in helping the child become more appropriate in his vocational outlook.

Significant chi squares were obtained with student scores and the variables of sex, age, race, father's occupation, father's educational level, IQ and work experience.

Table 17 is the frequency table related to the sex variable and student net score. As shown in Table 17, a significant number of females scored below the sample median on net score. The reverse was true for the males. While significant differences were found on the appropriate score, none were found for inappropriate scores.

Table 17. Frequency Table - Sex Variable and Net Score

	Below Median	Above Median
Females	107	64
Males	87	115

This result is hypothesized to be an effect of the greater number of females in the lower IQ group and a greater number of males in the higher IQ group. Apparently the lower intellectual level of the females makes it more difficult for the females to select the appropriate tasks. Another possible explanation for this finding is that in our society the male is the traditional

provider for the family and adolescent females may not be as concerned about vocations since they anticipate marriage and raising a family.

Table 18 presents the frequencies relating to the age variable and inappropriate score. Table 18 shows that a significant number of the older students made less inappropriate responses than the younger group. It appears, as anticipated, the students become less inappropriate in their responses as they increase in age indicating the older students are more capable of realizing their limitations with respect to jobs and skills. No significant differences were found on the appropriate and net scores.

Table 18. Frequency Table - Age Variable and Inappropriate Score

		Below Median	Above Median
Age	Younger Group	46	61
	Older Group	155	111

Table 19 is the frequency table related to the race variable and inappropriate score. As may be noted in Table 19, the number of non-white students above the sample median on inappropriate score constituted the majority of the non-whites in the population.

Table 19. Frequency Table - Race Variable and Inappropriate Score

	Below Median	Above Median
Non-White	39	49
White	162	123

It is hypothesized this finding is a result of the present day civil rights movement. A major emphasis in the civil rights movement has been to employ qualified non-whites in positions heretofore not open to them due to race. Efforts have also been made to encourage non-whites to obtain as much education and training as possible. The educable mentally handicapped non-white quite possibly is unable to discriminate the inappropriate items on the Could You Ever scale in light of the push for better education and jobs for qualified non-whites. The investigator would hypothesize that prior to the civil rights movement this finding would not have resulted.

Table 20 presents the frequencies relating to fathers' occupational level and net score. The majority of the students in the fathers' lower occupational level group scored below the sample median on net score, while the majority of the higher group scored above the median. This result again suggests the influence of home factors on the vocational outlook of the EMH. The students from the higher occupational level group may feel they would be able to obtain a greater number of jobs based on what their fathers could do. Those students from the lower level occupational group tend to underestimate their capabilities and the number of jobs available to them.

Table 20. Frequency Table - Father's Occupational Level and Net Score

	Below Median	Above Median
Lower Level	124	94
Higher Level	70	85

Table 21 is the frequency table related to fathers' educational level and net score. The figures in Table 21 are similar to those in Table 20 but not as significant as in Table 20. It appears educational level of the father does not play as important a role in his EMH child's vocational outlook as does father's occupation. A limiting factor is that data collected on father's educational level is primarily on the basis of student report and may not be as accurate as father's occupation and other data collected from student records.

Table 21. Frequency Table - Father's Educational Level and Net Score

	Below Median	Above Median
Lower Level	48	29
Higher Level	146	150

Table 22 presents the frequencies relating to IQ and net score. The majority of the lower IQ group scored below the median on net score. As noted in Table 22, the reverse is true for the higher IQ group. This finding is similar to that on sex where the majority of the females scored below the median on net score. Also the fact that significantly more females were found in the lowest IQ group should be recalled. Again it appears those students in the lower IQ group have more difficulty in selecting the appropriate tasks. In effect they are possibly more cautious due to many failures and frustrations which results in an underestimation of their capabilities.

Table 22. Frequency Table - I.Q. and Net Score

I.Q.		Below Median	Above Median
	Below Median	118	66
	Above Median	76	113

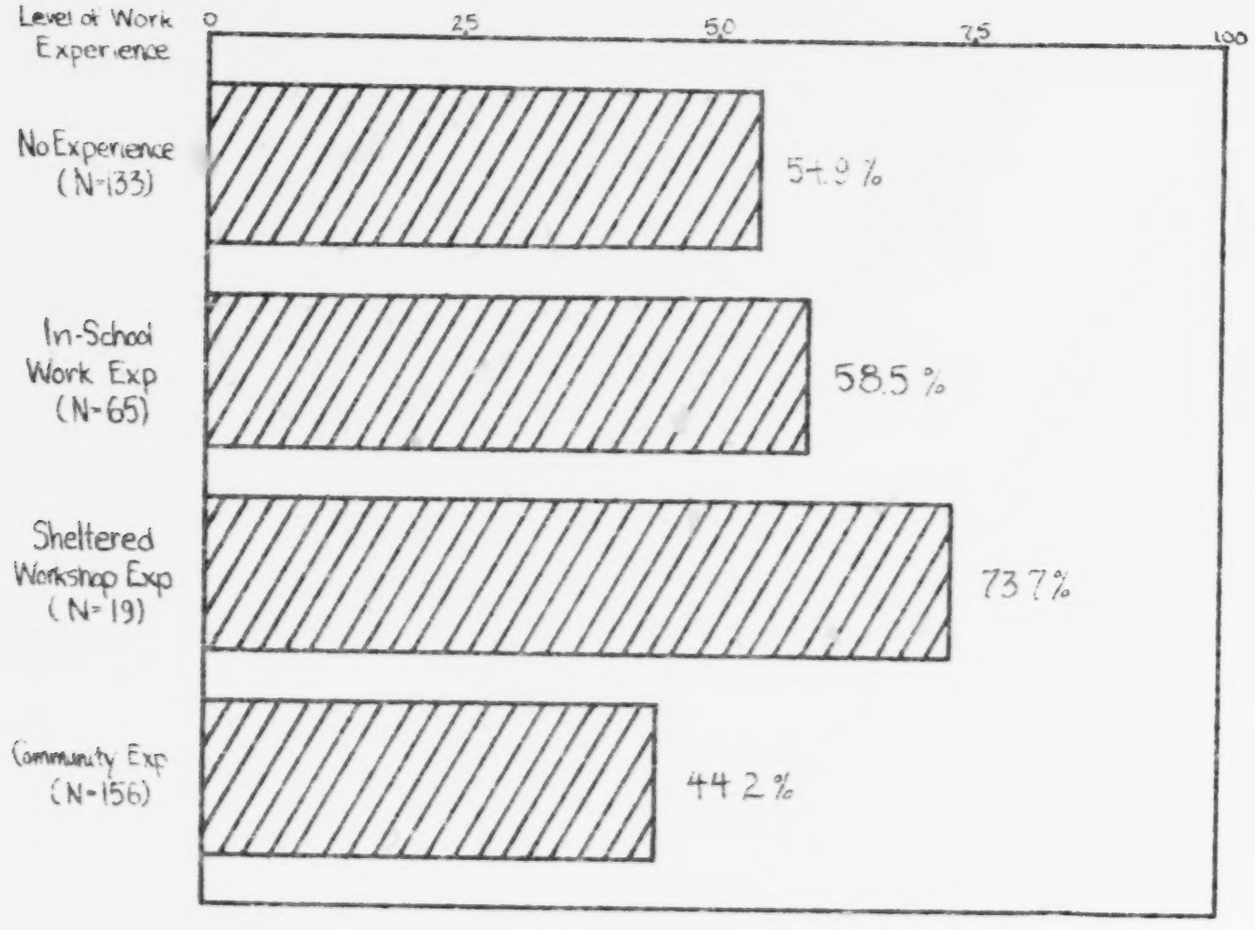
Figure 2 presents percentages related to work experience and median net score. The majority of students with no work experience, with in-school experience, and sheltered workshop experience scored below the median, and the majority of those who had held community jobs scored above the median.

It is hypothesized holding a job in the community has definite implications for assisting the EMH student to become more appropriate in vocational outlook. The in-school and sheltered workshop experiences tend to make the student more cautious in deciding the appropriate tasks. These are usually the first work assignments the student has and they precede the community experience.

An implication of this finding is for the inclusion of community work experiences in the special program for the EMH. This finding supports the opinions of authorities, cited in Chapter I, relating to a work program being a part of the high school program. However, it is also quite possible those students placed on community jobs are those with an appropriate outlook prior to the placement. Further study of the influence of community work experience by pretest-post test design may be of value in resolving the question.

As reported in Chapter III, further analysis was done on work experience controlling for the other significant variables of sex and

Figure 2. Percentage Graph - Work Experience and Net Score.



IQ. The results of this analysis are presented graphically in Figure 3 for sex.

It was found no significant relationship existed between work experience and the net score for females. The males, however, as may be noted in Figure 3 did show a significant relationship as evidenced by the large majority scoring over the median on net score following community work experience. Community work experience appears to be a critical factor for males as it relates to vocational outlook.

The only significant chi square found for work experience and student scores controlling for IQ was found for the low IQ group and appropriate score. Figure 4 graphically presents this result.

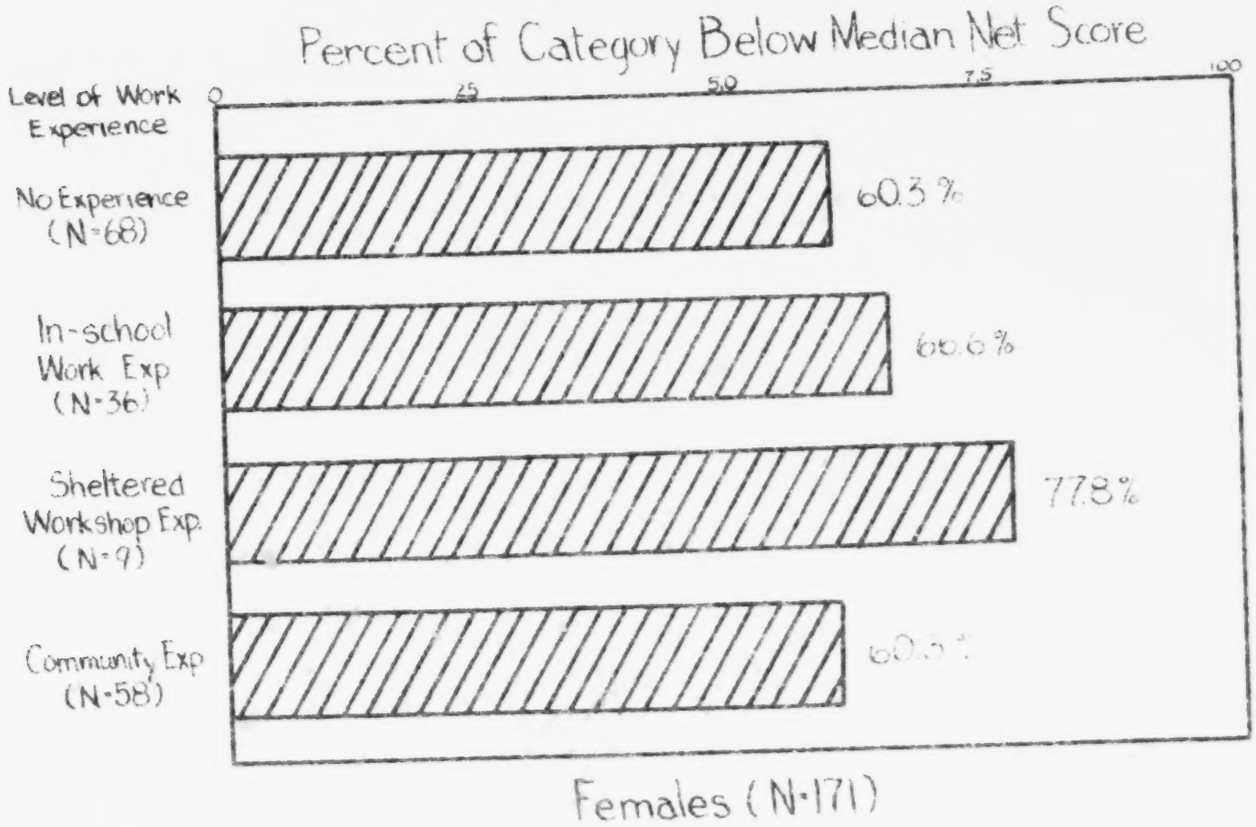
Community work experience apparently assists the lower IQ group in becoming more appropriate in their responses. This may well be a result of actually being able to obtain a job after much failure and frustration in academic and social aspects of the school.

As noted in Chapter III, there appears to be no difference in the socio-economic factors influencing the students as they relate to work experience and student scores. Significant relationships were found only when fathers' occupational and educational level were dichotomized by the median and not when these variables were regrouped and combined in an attempt to find differences within social classes.

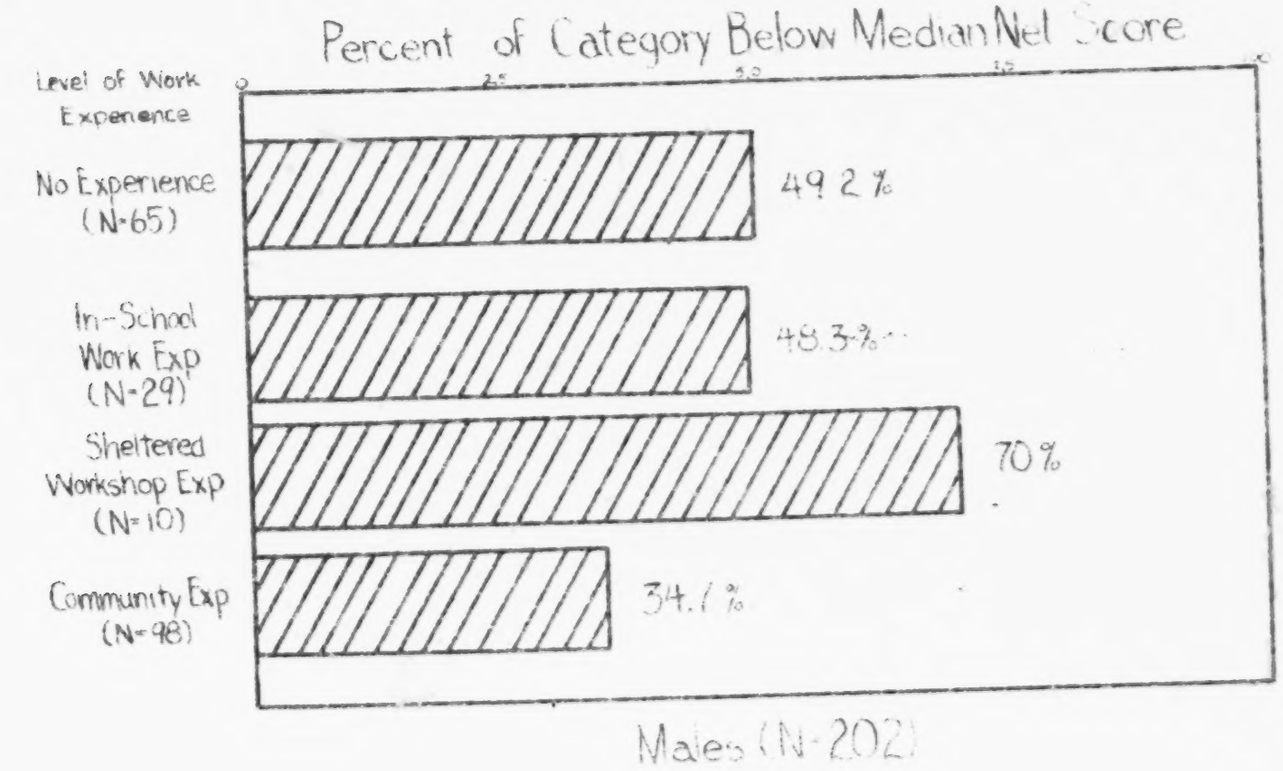
On the basis of this investigation the following findings should be considered in planning secondary EMH programs:

1. the number of females and males included in the study are more nearly even than might have been expected based on the greater number of males reported in follow-up studies and the investigator's experience with public school EMH classes;

Figure 3. Percentage Graph-Work Experience and Net Score Controlling for Sex Variable.

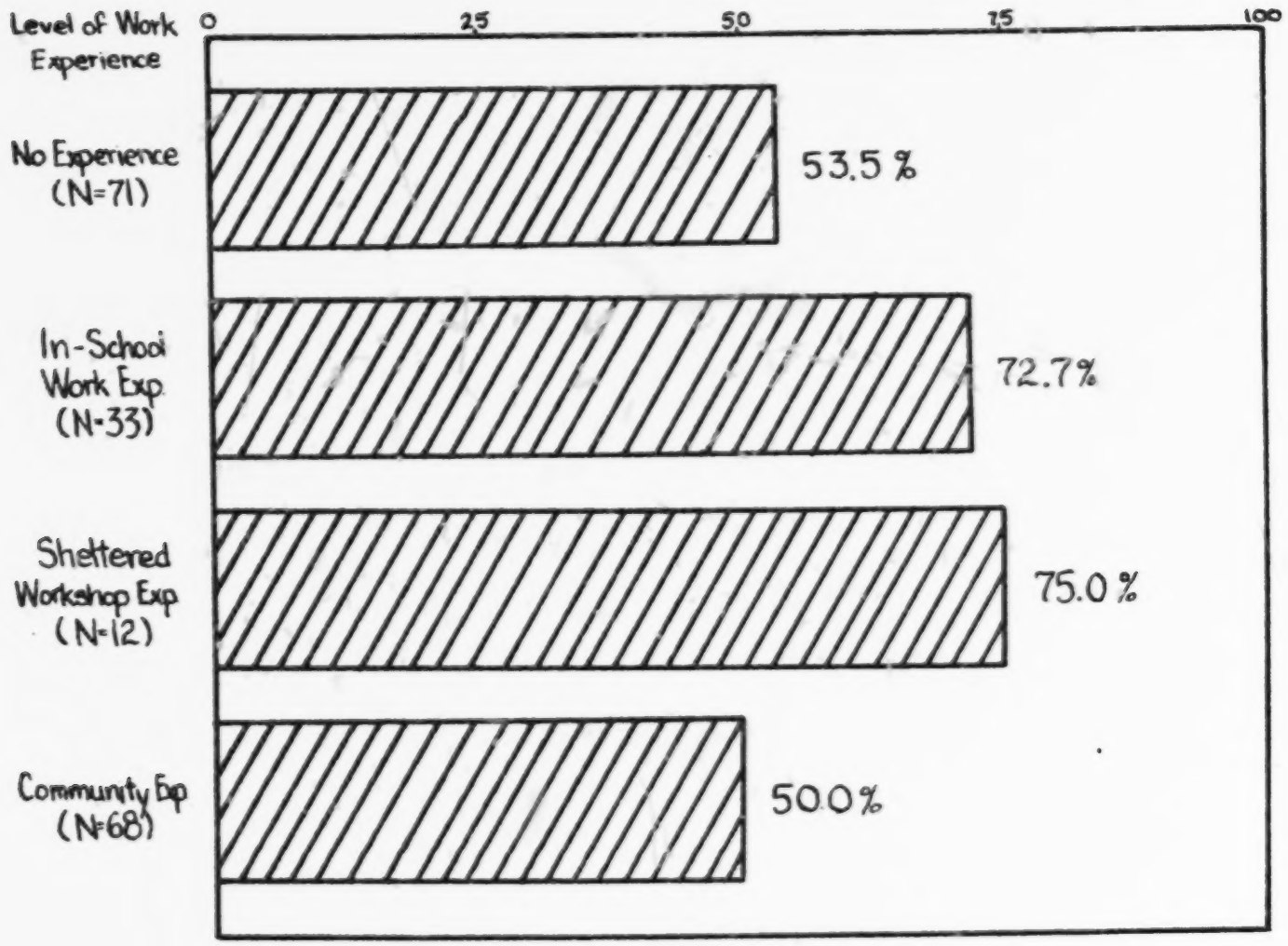


Females (N=171)



Males (N=202)

Figure 4. Work Experience and Appropriate Score for Low I.Q. Group (Male and Female).



2. a significant difference was found in the distribution of males and females in I.Q. groupings with a greater proportion of males in the higher I.Q. group and a greater proportion of females in the lower I.Q. group;

3. anticipated relationships between secondary school EMH program offerings and vocational outlook were not found, indicating possible influence of non-school factors on the vocational outlook of EMH students;

4. a significantly greater number of females scored below the sample median on the Could You Ever scale indicating the females are less appropriate in vocational outlook than the males;

5. as chronological age increases, the number of inappropriate responses on the Could You Ever scale decreases;

6. non-whites tended to be more inappropriate in their responses than whites;

7. fathers' occupational level tends to influence the vocational outlook of the EMH student to a greater extent than the educational level of the father;

8. the lower I.Q. group had more difficulty in selecting appropriate items on the Could You Ever scale;

9. community work experience appears to be a critical factor as it relates to vocational outlook of the males but not the females;

10. community work experience apparently assists the EMH student in the lower I.Q. range to become more appropriate in his vocational outlook.

A composite description of the EMH student who would be most appropriate in vocational outlook as measured by this study would include the following:

Sex: Male
Age: 16 or over
Race: White
I.Q.: 75-90
Work Record: Has had community work experience
Fathers Occupation: Skilled worker or above

Obviously all EMH students cannot be made to fit this description.

CHAPTER V

SUMMARY

Illinois public high school programs for the educable mentally handicapped (EMH) have been relatively slow to develop under permissive special education legislation over the past twenty year period. In 1965, the Illinois General Assembly amended the School Code to require every school district to provide for the education of all resident handicapped children by the 1969-70 school year. High school districts, under the amendment, became financially responsible July 1, 1966, for such handicapped children who had reached their fifteenth birthday. Many new high school EMH programs must develop to conform to the mandate of the General Assembly. The results of this study may prove useful in planning programs for the EMH adolescent.

Purpose of the Study

The purpose of this study was to investigate the relationship between vocational outlook of high school EMH students and the type of high school program in which they were found. Possible relationships between the EMH student's vocational outlook and his age, sex, race, intellectual level, reading achievement level, work experience history, and home background were also considered.

The lack of previous research with this topic dictated the need for an exploratory study of existing programs.

Procedure

Data were collected in the thirteen high schools in Illinois

which operated two or more classes for the educable mentally handicapped during the 1965-66 school year. Vocational outlook of EMH students was measured by a Could You Ever scale, a group test, constructed for this study. School programs were rated on a Program Criteria Index designed by the investigator. Each student's age, sex, race, I.Q., reading achievement level, work experience history, father's occupation, and father's educational level were collected from school records. When necessary, this data was supplemented by teacher or student report. Nonparametric techniques (rank correlation and chi square) were utilized in analysis of data.

Findings

The sample consisted of 373 EMH students -- 202 males and 171 females -- ranging in age from 13 to 21 years. Thirty-two special classes were included in the study. The major findings of this investigation may be summarized as follows:

1. A significant difference in distribution of the males and females in I.Q. groupings with a greater proportion of females in the lower I.Q. group and a greater proportion of males in the higher I.Q. group was found to exist.
2. Rank correlations failed to reveal relationships between vocational outlook of the students and the nature of the program in which they were enrolled as defined by several measures -- program offerings, services, facilities, expenditure -- suggesting the influence of non-school factors on vocational outlook.
3. Females scored significantly lower than males on the Could You Ever scale indicating the females are less appropriate in their

vocational outlook.

4. The number of inappropriate responses on the Could You Ever scale decreased significantly as chronological age of the student increased.

5. As a group, the non-white subjects in the sample were more inappropriate than the white subjects in their responses.

6. The students from the fathers' higher level occupational group had significantly higher net scores (more appropriate) than those students from the fathers' lower level occupational group.

7. A significantly greater number of students in the lower I.Q. group scored below the sample median indicating they are less appropriate in vocational outlook than those students in the higher I.Q. group.

8. The appropriateness of vocational outlook of males improves significantly following a community work experience.

Implications

The implications of the findings of this study are discussed under three headings: limitations to generalization of findings; implications for program planning; and implications for future research.

Limitations to Generalization of Findings

1. Implications of this study are restricted to the time (1965-66 school year), area (State of Illinois), and group (educable mentally handicapped as defined) under study. Studies of this nature in the future, or in other states, may refer to the subjects included in this study as a sample in time and space, and subject to the

limitations imposed by this condition.

2. Program rating using the Program Criteria Index did not attempt to determine quality of program or services, merely their existence. Thus the rankings of the schools included in this study do not necessarily infer quality.

3. The Could You Ever scale utilized in this study has not been standardized on a large sample of cases. The scale, devised for the study, was subjected to a pilot administration to students and teachers. Close agreement was found to exist between the teachers and the rating group used to develop the scale. The scale appears to discriminate between students based on the wide range of scores reported in Chapter III.

Implications for Program Planning

Implications of the findings of this study which may assist in planning high school EMH programs are offered below.

1. If the characteristics of the sample, as found in this study, are representative of high school EMH students, program planners must consider the fact that half the students to be served are females. While this may seem obvious, considerably more males than females have been found in EMH classes in the past as evidenced by follow-up studies reported in the literature. Program planners must also consider the fact that a significantly greater number of females were found in the lower I.Q. group and were less appropriate in their vocational outlook than the males. Elements of the program being planned should attempt to offer activities geared to the female

student, keeping in mind the intellectual level of the females in this sample.

2. The lack of relationship between school program and vocational outlook found in this study definitely suggests the influence of non-school factors on vocational outlook of the EMH. Findings also suggest the influence of the home as it is related to father's occupation. Two possible measures which might be considered to better utilize the influence of non-school factors are:

a. Increased parent counseling to further explain vocational goals for the EMH adolescent;

b. Increased public relations efforts through news media and speaking engagements of staff members before community organizations to develop a better awareness of the capabilities of the EMH.

3. Inclusion of a work-study phase in a high school EMH program, while recommended by authorities for many years, did not exist in all the programs included in this study. Based on the findings of this study, community work experiences appear to be critical for males and those students in the lower I.Q. group in assisting them to become more appropriate in vocational outlook. Work-study experiences, particularly in the community, should be planned for high school EMH programs. It is quite possible the narrow range of jobs available to the female influences the effect of community work experience on their vocational outlook. Thus, stress should be placed on finding a wider range of community work placements for females.

Implications for Future Research

This investigation can be classified as an exploratory study,

to answer questions about the existing high school EMH programs in Illinois and the vocational outlook of students enrolled in these programs. Several questions remain unanswered:

1. The Program Criteria Index used to rank the thirteen programs in the study did not attempt to measure quality of program offerings or services. A future study in which quality of program and services is examined may reveal relationships between school program and the vocational outlook of the EMH.

2. The data failed to reveal whether community work experience actually assisted the EMH adolescent in developing a more appropriate vocational outlook or whether those students with the more appropriate vocational outlook are the ones selected for community work experience. A longitudinal study with vocational outlook tested prior to and following community work experience is needed.

3. If non-school factors are major determinants of vocational outlook of the EMH, as results of this study seem to imply, parent counseling would appear to be a crucial aspect of the school program. An empirical study of the various types of parent counseling could be used to verify this implication.

BIBLIOGRAPHY

Allen, Arda. Cogs in the occupational wheel. Occupations, 1941, 20, 15-18.

Ausubel, D. P., Balthazar, B.B., Rosenthal, Irene, Blackman, L. S., Schpoont, S. H., and Welkowitz, Joan. Perceived parent attitudes as determinants of children's ego structure. Child Development, 1954, 25, 173-183.

Burchill, George W. Work-Study Programs for Alienated Youth--A Casebook. Chicago: Science Research Associates, 1962.

Chalfant, James C. Factors related to special education services in Illinois. Unpublished doctoral dissertation, University of Illinois, 1965.

Champaign Public Schools. Prevocational Services for Handicapped Youth. Champaign, Illinois: Champaign Community Schools, 1961.

Dinger, Jack C. Post school adjustment of former educable retarded pupils. Exceptional Children, 1961, 27, 353-360.

Dunn, Lloyd. Services for exceptional children. Services for Exceptional Children. Langhorne, Pa.: The Woods Schools for Exceptional Children, 1956.

Erdman, Robert L. Vocational choices of adolescent mentally retarded boys. Unpublished doctoral dissertation, University of Illinois, 1957.

Eskridge, Charles S. and Partridge, Don L. Vocational rehabilitation for exceptional children through special education. Exceptional Children, 1963, 29, 452-458.

Fuchigami, Robert Y. An investigation of the extent of integration and some related factors affecting the social relationships of educable mentally handicapped children in Illinois. Unpublished doctoral dissertation, University of Illinois, 1964.

Goldstein, Herbert and Seigle, Dorothy M. A Curriculum Guide for Teachers of the Educable Mentally Handicapped. Springfield, Illinois: Office of Superintendent of Public Instruction, 1958.

Heber, Rick. Personality. Stevens, Harvey A. and Heber, Rick, editors. Mental Retardation. Chicago: University of Chicago Press, 1964.

Henderson, Robert A. Factors in commitment of educable mentally handicapped children to Illinois state schools. Unpublished doctoral dissertation, University of Illinois, 1957.

Illinois Administrators of Special Education. A Guide to Supervision of Special Education. Champaign, Illinois: Illinois Administrators of Special Education, 1965.

Ingram, Christine P. Education of the Slow-Learning Child, 2nd ed. New York: The Ronald Press Co., 1953.

Kirk, Samuel A. and Johnson, G. Orville. Educating the Retarded Child. Boston: Houghton Mifflin Co., 1951.

Kirk, Samuel A. Vocational rehabilitation: an educator's critique on past, present and future programs. Vocational Training and Rehabilitation of Exceptional Children. Langhorne, Pa.: The Woods Schools for Exceptional Children, 1957.

Kirk, Samuel A. Educating Exceptional Children. Boston: Houghton Mifflin Co., 1962.

Lehman, A. Dealing with the employer in job finding and placement. American Journal of Mental Deficiency, 1951, 56, 445-447.

McCoy, George F. Some ego factors associated with academic success and failure of educable mentally handicapped pupils. Unpublished doctoral dissertation, University of Illinois, 1960.

McFall, Thelma M. Postschool adjustment: a survey of fifty former students of classes for the educable mentally retarded. Exceptional Children, 1966, 32, 633-634.

Office of the Superintendent of Public Instruction. The School Code of Illinois. Springfield, Illinois: Office of the Superintendent of Public Instruction, 1965.

Office of the Superintendent of Public Instruction. Rules and Regulations to Govern the Administration and Operation of Special Education. Springfield, Illinois: Office of the Superintendent of Public Instruction, 1964.

Peckham, R. A. Problems in job adjustment of the mentally retarded. American Journal of Mental Deficiency, 1951, 56, 448-453.

Peterson, LeRoy and Smith, Lloyd L. The post-school adjustment of educable mentally retarded adults compared with that of adults of normal intelligence. Exceptional Children, 1960, 26, 404-408.

Robinson, Halbert B. and Robinson, Nancy M. The Mentally Retarded Child--A Psychological Approach. New York: McGraw-Hill Book Co., 1965.

Saenger, G. Factors Influencing the Institutionalization of Mentally Retarded Individuals in New York City. Albany, N.Y.: Inter-departmental Health Resources Board, 1960.

Sniff, William F. A Curriculum for the Mentally Retarded Young Adult. Springfield, Illinois: Charles C. Thomas Publisher, 1962.

U.S. Bureau of the Census. 1960 Census of Population, Alphabetical Index of Occupations and Industries (Revised Edition). Washington, D.C.: U.S. Government Printing Office, 1960.

U.S. Department of Labor. Dictionary of Occupational Titles, Vol. II, 3rd Edition. Washington, D.C.: U.S. Government Printing Office, 1965.

Walter, L. M. and Marzolf, S. S. The relation of sex, age, and school achievement to levels of aspiration. Journal of Educational Psychology, 1951, 42, 285-292.

Warner, W. L., Meeker, Marchia, and Eells, K. Social Class in America--A Manual of Procedures for the Measurement of Social Status. New York: Harper and Brothers, 1960.

Warren, Fount. The Kent Occupational Education and Training Center. Grand Rapids, Mich.: The Center. 1965.

APPENDICES

APPENDIX A

PROGRAMS INCLUDED IN STUDY

School	Type of District	Grades in District
Blue Island Community High School	Community High School	(9-12)
Carbondale Community High School	Consolidated High School	(9-12)
Champaign High School	Unit	(K-12)
Decatur (Eisenhower) High School	Special Charter	(K-12)
Evanston Township High School	Township High School	(9-12)
[a]William Fremd (Palatine) High School	Township High School	(9-12)
Jacksonville High School	Unit	(K-12)
[b]LaGrange Township High School	Township High School	(9-12)
Maine Township East (Park Ridge) High School	Township High School	(9-12)
[c]Proviso Township East (Maywood) High School	Township High School	(9-12)
Rich Township East (Park Forest) High School	Township High School	(9-12)
Rockford (Auburn) High School	Special Charter	(K-12)
[a]Wheeling High School	Township High School	(9-12)

[a]Member District: Northwest Suburban Special Education Organization (8 elementary and 2 high school districts)

[b]Member District: LaGrange Area Department of Special Education (13 elementary and 3 high school districts)

[c]Member District: Proviso Township Area Department of Education of Exceptional Children (6 elementary and 1 high school district)

APPENDIX B

SAMPLE LETTER

March 4, 1966

_____, Superintendent
Blue Island Public Schools, Dist. 218
12700 Sacramento
Blue Island, Illinois

Dear Mr. _____:

I have selected a study of "The Relationship of Vocational Outlook and Special Educational Programs for Adolescent Educable Mentally Handicapped" as my doctoral thesis topic and would like to ask for your assistance. The districts to be included in the study are those in Illinois with two or more high school EMH classes (excluding Chicago). The State Office has informed me you have three such classes in the Blue Island program.

Criteria based on State rules and regulations and commonly accepted components of high school EMH classes, i.e., teacher personnel, facilities, work-study program, etc., would be used to study the Blue Island classes. A "Could You Ever" scale I have constructed would be administered orally to the children enrolled in a group to examine vocational outlook. The scale includes such things as could you ever be a doctor, dishwasher, etc.

I would also need additional information on each student and his parents which would be readily available from the teacher or cumulative records. All information on the school, children and teachers would be treated anonymously in the writing of the thesis or any subsequent publication.

The time required with the students would be 45 minutes to one hour. In most cases I would need to see the group in the morning and then another group in the afternoon (those on work-study in the morning). The teachers would also be asked to respond to the scale at the same time the students were responding. An interview with teachers and you or the principal, in a group or individually, would also be required. This would take about 30 minutes.

I have discussed this project with Vernon Frazee, State Director of Special Education, and he has endorsed the study and offered his cooperation in furnishing the information as to location of classes.

Please let me know if your district will allow me to conduct this study in the Blue Island EMH classes. Tentatively I would plan to be in Blue Island Tuesday, May 10 to collect data if this date would be acceptable. Thank you for your consideration of this request.

Sincerely,

Philip R. Jones
Graduate Fellow

APPENDIX C

PROGRAM CRITERIA INDEX

School_____

I. Teacher Personnel (Average Score for Program)

1. a. Fully trained teacher (2 points per teacher)_____
   b. Provisionally trained teacher (1 point per teacher) _____
2. Training received in full time resident study _____
3. Both male and female teachers in the program _____
4. Teacher trained in another area of secondary education in addition to EMH _____
5. Secondary teaching experience in area other than EMH _____
6. Teacher has had work experience other than teaching (summer, part time, full time) _____

TOTAL PART I _____

II. Diagnostic and Counseling Services

1. Psychological service readily available (reevaluation possible during three year eligibility period) _____
2. Social work service readily available (one or more students now being seen or could be referred) _____
3. Vocational counseling by
   a. school educational counselor _____
   b. vocational counselor for the handicapped _____
   c. local vocational rehabilitation counselor _____
   d. state employment service _____
4. Vocational counseling begins before ninth grade_____
5. Parents also seen by counselor _____

TOTAL PART II _____

III. Housing and Facilities

1. Classroom comparable in size to other classrooms in building _____

2. Central location in building (not isolated from other classrooms) _____

3. Adequate vocationally oriented equipment in room (typewriter, adding machine, tools, sewing machine, etc.) _____

4. Access to audio-visual aids and equipment _____

5. Classroom designed and constructed or remodeled for EMH _____

TOTAL PART III _____

IV. Work-Study Program

1. All juniors and seniors participate _____

2. Coordinated and supervised by special staff member _____

3. Leads to credit toward graduation _____

4. Community experiences available _____

5. In-school experiences available _____

6. Sheltered workshop available _____

TOTAL PART IV _____

V. Vocationally Oriented Curriculum

1. Evidence of commercially prepared vocational materials _____

2. Evidence of specific teacher prepared vocational materials adapted to the community _____

3. Instruction geared to life applications _____

4. Vocationally oriented field trips _____

5. Use of community resource personnel (business, industry, agency, etc.) _____

6. Regularly scheduled vocations or occupations course _____

7. Three or four year sequential program for all who enter _____

8. Regular diploma granted when specific requirements are met _____

9. Participation in formal graduation ceremony _____

TOTAL PART V _____

VI. Participation in Regular Classes and All School Activities

1. Integration in regular classes
   a. all participate in at least one area _____
   b. physical education _____
   c. art _____
   d. music _____
   e. shop or home ec _____
      (1) boys and girls in both areas _____
   f. vocational education courses (auto mechanics, agriculture, metal, building trades, DO, OO, DE, vocational home ec) _____
   g. one other area _____
   h. two other areas _____
   i. three other areas _____
   j. acceptance of EMH by regular teachers _____

2. Participation in extra curricular activities possible
   a. all school functions (parties, dances, etc.) _____
   b. athletics _____
   c. clubs _____
   d. music _____
   e. drama _____

f. intramural _____

TOTAL PART VI _____

VII. Administration and Budget

1. Full time director of special education _____

2. Full time supervisor or coordinator of EMH _____

3. Specific budget allocation for high school program (material and supplies, equipment, maintenance) _____

4. Teachers participate in ordering materials, supplies, etc. _____

TOTAL PART VII _____

VIII. Parent Knowledge of Program

1. Parent education group in operation _____

2. Interpretation of total program including high school made to parent at time of entry _____

3. Interpretation of high school program made on high school entry _____

TOTAL PART VIII _____

GRAND TOTAL _____

Educational Fund - Expenditure Per Pupil In District -

$$\frac{\text{Ed. Fund}}{\text{ADA}}$$

APPENDIX D

CLASS DATA SHEET

Achievement Test Used:

_____

Teacher Age: 21-25 26-30 31-35 36-40 41-45
46-50 51-55 56-60 61-over

Teacher Experience: _____ Elem. _____ Sec. ___ El EMH ___ Sec EMH

School _____

Teacher _____

Sex	Race: White Non-White	Date of Birth	Reading Level	IQ	Date	Test	Yrs. in EMH	Has Had Wk-Study Exp.	Father's Educ. Level	Yrs. in H.S.	Fath-ers Occup.	Broken Home.	Welfare Recip.

APPENDIX E

COULD YOU EVER SCALE

DIRECTIONS:

I am going to read you a list of skills and jobs and ask if you think you could ever do the skill or job. The questions will be like these:

Could you ever bake a cake?

Could you ever paint a house?

Could you ever ride a bicycle?

In some cases the questions will be divided for boys and girls like the first two samples I read to you (reread first two items as sample). On your answer sheet circle yes or no for your answer. There are no right or wrong answers to this test and it will not be used to give you a grade in school -- in fact your teachers are taking the test too. Answer each question by yourself because only you would know whether you could do the things I ask. In some cases you may be able to do the thing I ask now and in others you may not. I want you to answer yes if you can do the thing now or think you will be able to at some time in your life. You may not like the job or skill I ask about but answer yes if you could do the job if you wanted to. Are there any questions?

	X DENOTES APPROPRIATE RESPONSE
1. Could you ever have a garden	X
2. Could you ever obtain a driver's license	X
3. Could you ever take care of a pet dog or cat	X
4. Could you ever teach the class if the teacher got sick	
5. Could you ever learn to read a map	X
6. Could you ever: G. be the best cook in the world B. repair an auto engine	
7. Could you ever: G. take care of a baby all day B. make a sled	X
8. Could you ever go to college	
9. Could you ever fly an airplane around the world	
10. Could you ever run a hospital	
11. Could you ever save fifty dollars	X
12. Could you ever save a baby from a burning house	X
13. Could you ever be a leader and make people do what you told them to do	
14. Could you ever discover something that would save many peoples lives	
15. Could you ever be the most famous person in your state	
16. Could you ever write a book with 300 pages	
17. Could you ever own a car	X
18. Could you ever learn to drive a car	X
19. Could you ever be: G. a librarian B. a doctor	
20. Could you ever be a sales clerk in a store downtown	X

21. Could you ever be: X
    G. a car hop at a drive-in
    B. a service station attendant

22. Could you ever be: X
    G. a nurse's aid
    B. a soldier

23. Could you ever be a school teacher

24. Could you ever rake and mow a yard X

25. Could you ever be a window washer X

26. Could you ever be:
    G. a school secretary
    B. a dentist

27. Could you ever have your own job X

28. Could you ever be principal of a grade or high school

29. Could you ever be:
    G. a nurse
    B. chief of police

30. Could you ever be the world's best musician

31. Could you ever be: X
    G. a waitress in a restaurant
    B. a ditch digger

32. Could you ever own your own farm

33. Could you ever be: X
    G. a maid in a hotel
    B. a garbage man

34. Could you ever be an elevator operator X

35. Could you ever be a car washer or dish washer X

36. Could you ever be a psychologist

37. Could you ever be a famous movie star

38. Could you ever be:
    G. a famous dancer
    B. a barber

39. Could you ever scrub and wax a floor X

40. Could you ever own a bank downtown

APPENDIX F

ANSWER SHEET

BIRTHDATE: MONTH_____ DAY_____ YEAR_____

SEX: FEMALE MALE

DRAW A CIRCLE AROUND YOUR ANSWER TO EACH ITEM

1.	YES	NO	21.	YES	NO
2.	YES	NO	22.	YES	NO
3.	YES	NO	23.	YES	NO
4.	YES	NO	24.	YES	NO
5.	YES	NO	25.	YES	NO
6.	YES	NO	26.	YES	NO
7.	YES	NO	27.	YES	NO
8.	YES	NO	28.	YES	NO
9.	YES	NO	29.	YES	NO
10.	YES	NO	30.	YES	NO
11.	YES	NO	31.	YES	NO
12.	YES	NO	32.	YES	NO
13.	YES	NO	33.	YES	NO
14.	YES	NO	34.	YES	NO
15.	YES	NO	35.	YES	NO
16.	YES	NO	36.	YES	NO
17.	YES	NO	37.	YES	NO
18.	YES	NO	38.	YES	NO
19.	YES	NO	39.	YES	NO
20.	YES	NO	40.	YES	NO

APPENDIX G

HOME AND FAMILY BACKGROUND OF STUDENTS

Characteristic	Categories	No. of Males	% of Males	No. of Females	% of Females	% of Sample
Father's Occupation	Professional, Technical & Mgr.	11	5.5	8	4.7	5.1
	Business Officials, etc. Graduate Training	14	6.9	15	8.8	7.8
	Minor Business Officials, etc. No Grad. Training	21	10.4	24	14.0	12.0
	Clerical, Skilled Owners	14	6.9	19	11.1	8.9
	Skilled	55	27.2	37	21.6	24.6
	Semi-skilled	43	21.3	25	14.6	18.2
	Unskilled	39	19.3	40	23.4	21.2
	Unemployed	5	2.5	3	1.8	2.2
	Total	202	100.0	171	100.0	100.0
Father's Educational Level	Professional or Graduate	11	5.5	7	4.1	4.8
	College (1-4 yrs.)	24	11.9	35	20.5	15.8
	High School Graduate	68	33.6	44	25.7	30.2
	1-3 Yrs.High School	45	22.3	32	18.7	20.6
	Grammar School Grad.	44	21.8	45	26.3	23.8
	4-7 yrs. of School	9	4.4	6	3.5	4.0
	0-3 yrs. of School	1	.5	2	1.2	.8
	Total	202	100.0	171	100.0	100.0
Broken Home	No	158	78.2	147	86.0	81.8
	Yes	44	21.8	24	14.0	18.2
	Total	202	100.0	171	100.0	100.0
Welfare Status of Family	Not Receiving Assistance	171	84.6	152	88.9	86.7
	Aid Dependent Children	20	9.9	12	7.0	8.4
	Other (Township, Soc. Sec., Foster Child)	11	5.5	7	4.1	4.9
	Total	202	100.0	171	100.0	100.0

VITA

Philip Robert Jones was born April 27, 1934 in Omaha, Nebraska. Following graduation from high school in Normal, Illinois, he entered Illinois State University at Normal where he received a B.S. degree in education of the mentally handicapped in June 1956.

In September 1956 he accepted a position as a junior high school teacher of the educable mentally handicapped in the Champaign, Illinois Community Unit Schools. As a member of the Illinois National Guard he entered active duty with the U.S. Army in June 1957 and served as an instructor at the U.S. Army Information School, Fort Slocum, New York. He returned to the Champaign schools in February 1958 where he resumed teaching while completing his six year reserve enlistment.

He continued his professional education at the University of Illinois and was awarded the Master of education degree in August 1961. In September 1961 he was appointed supervisor of services for the mentally handicapped in Champaign. He was appointed director of the department of special services in July 1965 and granted a sabbatical leave for the 1965-66 school year to accept a U. S. Office of Education Fellowship for doctoral study in the administration of special education at the University of Illinois. He assumed the position of director of special services in Champaign in July 1966.

He is a past president of the Champaign Education Association (1960-61) and the Illinois Council for Exceptional Children (1965).

He is married to the former Dorothy Huffington and they have two daughters.